

**PRELIMINARY ASSESSMENT REPORT
for
ST. LOUIS PARK SOLVENT PLUME
ST. LOUIS PARK, HENNEPIN COUNTY, MINNESOTA**

**MPCA Site Assessment Site: SA4543
MPCA Superfund Site ID: SR377, SR358
EPA ID: MNN000510267**

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Signature Page
For

**Preliminary Assessment
St. Louis Park Solvent Plume
(a.k.a., Highway 7 and Wooddale Avenue Vapor Intrusion)**

**St. Louis Park, Hennepin County, Minnesota
MPCA Site Assessment Site: SA4543
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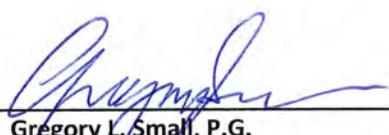


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PRELIMINARY ASSESSMENT REPORT
St. Louis Park Solvent Plume
MPCA Site Assessment Site SA4542/Superfund Sites SR377, SR358
EPA SEMS ID MNN000510267

1.0 INTRODUCTION

The Site Assessment Program of the Minnesota Pollution Control Agency (MPCA), under a Cooperative Agreement with the United States Environmental Protection Agency (EPA), has prepared this Preliminary Assessment Report (PA) under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 40 CFR, Part 300) for the St. Louis Park Solvent Plume in St. Louis Park and Edina, Minnesota (the Site). The purpose of the PA is to distinguish between sites that pose little or no risk to human health and the environment and sites that require further investigation. If, over the course of the investigation, there is sufficient information to suggest the site is impacting human health or the environment, the site can be placed in the SEMS database and will progress through the Superfund investigative process.

The MPCA was given approval by the EPA to conduct a PA at the St. Louis Park Solvent Plume (originating near Highway 7 and Wooddale Avenue in St. Louis Park, Hennepin, Minnesota, Figure 1) based on the results of a Pre-CERCLIS Screening worksheet (PCS) that was prepared for this site (MPCA, 2014). The PCS identified tetrachloroethene (PCE), trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-DCE), and vinyl chloride (VC) as possible contaminants of concern. Potential sources of chlorinated solvent contamination include metal cleaning, degreasing operations, mechanical maintenance, dry cleaning and others. Information contained in this report will be used to evaluate this site to support a site decision regarding the need for further Superfund action, including the possibility for the St. Louis Park Solvent Plume site to be considered for inclusion on the National Priorities List (NPL) of hazardous waste sites.

This report contains the text, figures and data tables discussed. The appendix references throughout the text refer the reader to a particular appendix within a specific report that contains the referred information. Previous report documents referred to in this report will be submitted as references to this Preliminary Assessment Report.

2.0 SITE BACKGROUND

2.1 Site Location

The St. Louis Park Solvent Plume (Site) is located in the cities of St. Louis Park and Edina, Hennepin County, Minnesota (Figure 1). The Site comprises approximately 3.16 square miles, and is located within an area generally bounded by W 33rd Street to the north, S France Avenue to the east, W 58th Street to the south, and Blake Road to the west and includes the St. Louis Park municipal wells SLP4 and SLP6 and Edina municipal wells E2, E7 and E15. The Site is located in multiple sections of Township 117 North, Range 21 West and Township 28 North, Range 24 West of the Minneapolis South, Minnesota 7.5-Minute Quadrangle.

The Site is generally flat lying and sits at a surface elevation ranging from approximately 885 to 990 feet above sea level. Meadowbrook Lake is present in the western portion of the Site, and Minnehaha Creek is present in the west and southern portions of the Site (Figure 1).

2.2 Area Geology and Hydrogeology

The Site is located approximately 7.8 miles northwest of the confluence of the Minnesota and Mississippi Rivers, in the vicinity of a buried bedrock valley that formerly contained the Glacial River Warren. The upper-most bedrock in the area of the site is typically the Platteville formation, at depths of 90 to 150 feet below grade. However, the surficial soils were developed from Des Moines Lobe glacial outwash deposits consisting of sand, loamy sand and gravel; overlain by loess deposits less than four feet thick that fill the bedrock valley and underlie the entire area (Balaban, 1989).

Groundwater flow in the unconsolidated glacial deposits is generally presumed to be southeast toward the Minnesota River, approximately 7.5 miles from the site. However, in the area of the Site, local shallow groundwater flow may be influenced by Minnehaha Creek and Meadowbrook Lake (present in the western and southern portions of the Site). Groundwater flow in the Prairie du Chien bedrock aquifer in this area is also presumed to flow toward the Mississippi River, approximately 7.2 miles east of the site. However pumping stresses from municipal and commercial activities significantly alters groundwater flow throughout the area (MGWA Newsletter June 2009).

According to the Minnesota Geological Survey, the water table system in the area of the site is high to very highly susceptible to pollution (Balaban, 1989) and the Prairie du chien-Jordan aquifer is moderately susceptible to pollution in the area of the bedrock valley (Piegat 1989).

2.3 Site Description and History

Portions of the Site have been in residential, commercial, and industrial use for nearly a century. Commercial businesses included many machine shop operations (including tool and die manufacturers, engine rebuilders, and metal fabricators) throughout the area. Industrial uses included a secondary lead smelter (previously occupied by a farm implement manufacturer) and manufacturing facilities. The Reilly Tar and Chemical wood treating facility (MPCA ID SR60, EPA ID MND980609804) operated near the northwest portion of the Site from 1917 to 1972 (STS, 2005a).

2.4 Previous Environmental Investigations

Environmental investigation work was initiated in 2004, when vinyl chloride was detected in the city of Edina municipal well number 7 (E7) at a concentration exceeding the federal maximum contaminant level (MCL). The detection triggered a multi-phase investigation to identify the source of groundwater contamination, as well as identify contaminant fate and transport mechanisms. The Edina municipal wells were listed on the state Permanent List of Priorities (PLP) in July 2006 as site ID SR358.

Investigations conducted between 2004 and 2013 (STS, 2004; STS, 2005b; STS, 2006; STS/AECM, 2007; AECOM, 2008; AECOM, 2009; AECOM, 2010; AECOM, 2013) documented the presence of a large

chlorinated volatile organic compound (VOC) plume spreading from the drift aquifer through the Platteville (OPVL) and St. Peter (OSTP) aquifers down to the Prairie du Chien-Jordan (OPCJ) aquifer. The main source for the chlorinated VOCs was centered on an area within the city of St. Louis Park, most notably in an area near the intersection of Highway 7 and Louisiana Avenue. This conclusion was supported by water data indicating that during the spring, summer, and fall months, heavy pumping from the Edina municipal wells creates a hydraulic gradient causing contaminated groundwater in the OPCJ aquifer to migrate from St. Louis Park toward the Edina wells. The OPCJ aquifer serves as the principal water supply aquifer in the area.

Multiple supply wells were identified with historic chlorinated VOC concentrations exceeding regulatory criteria (Minnesota health risk limits/health based values [HRLs/HBVs] and/or federal maximum contaminant levels [MCLs]) during this timeframe. These included: St. Louis Park municipal wells (SLP4, and SLP6), Edina municipal wells (E2, E7, E13, and E15), and non-municipal water supply wells (W23-Reilly pump out well, W29-industrial well, W48-abandoned, W105-Reilly pump out well, and W119-irrigation well). It should be noted that St. Louis Park well SLP6 is currently not used as a principal municipal supply well; however, it is connected as a backup supply well for times of emergency use. Other wells that have had chlorinated solvent detections below the MCLs or HRLs include Edina municipal well E13 and Hopkins municipal well H6.

Until late 2006, environmental sampling efforts focused exclusively on testing groundwater. However, the presence of a high concentration VOC plume in the drift aquifer, extending through the St. Louis Park residential areas, raised a concern of exposure to VOCs through the vapor intrusion pathway (STS, 2007A). A soil vapor survey was completed in 2007 to collect soil vapor data (STS, 2007B). Results of the survey identified soil vapor contamination within the area, with the highest shallow vapor concentrations noted in a residential area near Colorado Avenue South and Oxford Street. MPCA staff determined additional testing was warranted, and St. Louis Park city staff was notified.

The MPCA requested assistance from the U.S. Environmental Protection Agency (EPA) Emergency Response Program due to the size, complexity, and expense of the additional study needed to evaluate soil vapor intrusion. A plan was developed by both agencies, and testing began in early 2008. EPA took steps necessary to protect the health and safety of residences who had given access, including the installation of sub-slab depressurization systems in about 40 homes. EPA involvement concluded in June 2008.

Additional source area characterization (including the collection of soil and groundwater samples, and conducting passive soil vapor surveys) was completed between 2009 and 2013 to further characterize the area noted in 2007 (the suspected source area). These investigations (AECOM, 2009; AECOM, 2012; AECOM, 2013B) identified five potential sources of VOC contamination that the MPCA has identified as the suspected sources. These include: former Super Radiator Coils/current Tall Sales (6714 Walker Street), Super Radiator Coil Tube Fab Division (3356 Gorham Avenue), Eclipse Electric (6512 Walker Street), Former EPS Printing (6518 Walker Street) and Care Cleaners (6528 W Lake Street). The St. Louis Park solvent plume was added to the state PLP in April 2010 as site ID SR377.

The historic data demonstrates the presence of hazardous substances released to the environment. The MPCA is continuing to perform additional studies to further characterize the identified source areas, as well as identify the parties responsible for the releases.

3.0 SITE ASSESSMENT FIELD ACTIVITIES

The MPCA Site Assessment (SA) program evaluates sites to determine if there is contamination present that is regulated under the regulatory framework established in CERCLA (42 USC, ch. 103) and/or MERLA (MN Stats. Ch. 115B). In addition, if contamination is present, the SA program determines the extent and magnitude of contamination, identifies exposure pathways, and attempts to determine if a responsible party may exist. The SA program reviewed the data available, including reports previously prepared by others, and concluded that additional subsurface field investigation was warranted to ascertain the extent and magnitude of the contamination and determine the level of risk to human health and the environment. As indicated in Section 2.4, a number of investigations have been conducted at the Site since 2004. This section focuses on the most recent field investigations (STS, 2007A; AECOM, 2009; AECOM, 2013A; AECOM, 2014A/B/C; and AECOM, 2015) conducted in the vicinity of the five suspected source areas.

3.1 Soil and Groundwater Sample Probes

Soil probes were advanced utilizing direct push technology for the purpose of collecting soil and groundwater samples. The following probes were advanced at the Site (illustrated on Figures 2):

- 35 borings (each designated as B1/W1, B2/W2, or B3/W3) advanced between March and May 2009. The borings were advanced on the Tall Sales, Eclipse Electric, MinValco*, Lighting Plastics*, Family Digest*, Pampered Pooch*, Kaufenberg*, Ace Supply*, Care Cleaners, Techna Graphics*, Bryant Graphics*, and Prof. Instruments properties*.
- 7 borings (SB-1 to SB-7) advanced on December 9 to 11, 2013 at the EPS Printing property
- 6 borings (SB-1 to SB-6) advanced on January 29 to February 3, 2014 near the former Flame Metals property.*
- 7 borings (B-1 to B-7) were advanced in the vicinity of the former Super Radiator Coils Tube Fab Division and former Super Radiator Coils/current Tall Sales buildings. Borings B-1 to B-3 were advanced on April 21-22, 2014; borings B-4 to B-6 were advanced on April 16-18, 2014; and boring B-7 was advanced on April 24, 2014.
- 11 borings (B-6 to B-16) advanced on January 12-28, 2015 east and southeast of the former Super Radiator Coils building; and
- 3 borings (B-17 to B-19) advanced on January 23-27, 2015 near the former National Lead Dump.*

* Based on the data collected from these investigations, the MPCA does not consider these sites as suspected source areas.

3.1.1 Soil Characterization and Sampling

Continuous soil cores were collected at each probe location and detailed logs were made for each borehole. The boring log data were used to interpret selected areas of Site stratigraphy in the suspected source areas, and the data is illustrated on Figures 3.A and 3.B. Due to data gaps, a figure depicting Site-wide stratigraphy is not available.

The uppermost soil encountered in the borings generally consisted of sand and silty sand with varying amounts of gravel. Discontinuous clay lenses were also noted throughout the areas investigated.

Soil samples were screened in the field for organic vapors. Selected soil samples were submitted for laboratory analysis for VOC (EPA method 8260B). Soil sample laboratory analytical results are summarized on Table 1.

Soil impacts (defined as exceeding established Minnesota soil reference values [SRVs] or soil leaching values [SLVs]) were identified at the Eclipse Electric, former EPS Printing, and former Super Radiator Coils properties (figure 2). Due to data availability issues, a figure denoting Site-wide analytical results is not provided. However, a figure depicting soil analytical results for the former EPS Printing property (a suspected source area) is included as Figure 4. Impacts included the following:

- PCE was detected in a soil sample collected near a back door at Eclipse Electric (6512 Walker St.) in B-2 at a concentration of 35,200 µg/kg. The sample was collected three feet below ground surface, and the concentration exceeded the Tier 1 SLV.
- Former EPS Printing: PCE was detected in soil samples SB-3 (4'), SB-4 (4'), SB-5 (40'), SB-6 (40'), and SB-6 (45') at concentrations ranging from 107 to 3,900 micrograms per kilogram (µg/kg). The concentrations exceeded the Tier 1 SLV of 41.5 µg/kg but did not exceed the residential or industrial SRV (72,000 µg/kg and 131,000 µg/kg, respectively).
- Former Super Radiator Coils: PCE was detected in soil samples B-4 (48'), B-5 (45'), B-5 (56'), B-8 (53'), B-8 (70'), B-9 (48'), B-9 (54'), B-9 (70'), B-10 (60'), B-11 (54'), B-12 (44'), and B-12 (68') at concentrations ranging from 57.5 µg/kg to 9,080 µg/kg. The concentrations exceed the Tier 1 SLV, but did not exceed the residential or industrial SRV. cis-DCE was also identified in soil sample B-7

3.1.2 Groundwater Sampling

Groundwater samples were collected from selected boring locations. At each sample location, a temporary well was installed constructed of one inch diameter PVC well casing and five foot long PVC well screen. The top of the well screen was set near the water table surface. Multiple four-foot screened intervals were used at various starting depths ranging from 11' bgs to 91.5' bgs.

Groundwater samples were collected using a stainless steel check valve and polyethylene tubing (manual inertial pumping) into laboratory-supplied sample containers. Groundwater samples collected from the temporary wells were analyzed for VOC (Method 8260B). Note that several petroleum-related VOCs were detected in groundwater samples. These detections may be associated with the Reilly Tar facility, and are not discussed in this document. Laboratory analytical results from the temporary wells are summarized on Table 2. Selected areas and sample results from the suspected source area are illustrated on Figure 5. Figure 5.C denotes Site-wide analytical results.

Identified chlorinated solvent groundwater impacts (defined as exceeding state HRL/HBVs or federal MCLs included the following:

- Eclipse Electric: PCE concentrations ranging from 3.0 to 1,800 µg/L in samples W-1, W-2 and W-3. The HBV for PCE is 4 µg/L, and the MCL is 5 µg/L.
- MinValco: TCE at a concentration of 6.9 µg/L in groundwater sample W-1. The HBV for TCE is 0.4 µg/L, and the MCL is 5 µg/L.

- Family Digest: TCE concentrations ranging from 5.4 µg/L to 100 µg/L detected in samples W-1, W2 and W-3. cis-DCE and trans-DCE concentrations of 76 µg/L and 200 µg/L (respectively) were detected in sample W-2. The HBV and MCL for cis-DCE are 6 and 70 µg/L, and the HRL and MCL for trans-DCE are 40 and 100 µg/L.
- Pampered Pooch: TCE at a concentration of 68 µg/L in sample W-3.
- Kaufenberg: TCE, cis-DCE and VC concentrations of 6.9, 3,200 and 120 µg/L (respectively) in sample W-1. The HRL for VC is 0.2 µg/L and the MCL is 2 µg/L.
- Ace Supply: VC at a concentration of 1.4 µg/L in sample W-2.
- Bryant Graphics: PCE at a concentration of 58 µg/L in sample W-1.
- Prof. Instrument: PCE at a concentration of 12 µg/L in sample W-2.
- Former EPS Printing: PCE at concentrations ranging from 4.8 to 2,400 micrograms per liter (µg/L). TCE was detected at concentrations ranging from 0.96 to 11.8 µg/L. Degradation compounds of PCE/TCE (cis-DCE, trans DCE, and VC) were also detected in several of the samples at concentrations exceeding their respective HRLs.
- Former Super Radiator Coils Tube Fab Division: TCE was detected at a concentration of 9.4 µg/L in groundwater sample B-1 (38-42').
- Former Super Radiator Coils: PCE, TCE, cis-DCE, trans-DCE, and VC were identified in exceedance of HRLs in multiple samples collected from 36-40 feet, 40-44 feet, 42-46 feet, 44-48 feet, 46-50 feet, 50-54 feet, 52-56 feet, 55-59 feet, 64-68 feet, 66-70 feet, 69-70 feet, 71-75 feet, and 76-80 feet. The highest concentrations were 21,000 µg/L (PCE), 150 µg/L (TCE), 4,800 µg/L (cis-DCE), 110 µg/L (trans-DCE) and 240 µg/L (VC).
- Former National Lead Dump: VC was identified at concentrations ranging from 1.6 µg/L to 14 µg/L in four samples collected from 38-42 feet, 56-60 feet, 61-65 feet, and 64-68 feet.

Of the chlorinated solvent groundwater impacts identified above only Eclipse Electric, Former EPS Printing, Super Radiator coils Tube Fab Division and Super Radiator Coils are considered potential sources.

3.2 Groundwater Monitoring Network

Monitoring wells were not installed as part of the source identification investigation activities. An existing network of monitoring wells, irrigation wells, industrial wells, and municipal water production wells, used in connection with the Reilly Tar facility, was utilized instead. The network consists of St. Louis Park municipal water production wells, (SLP1, SLP2, SLP3, SLP4, SLP5, SLP6, SLP10, SLP11, SLP12), monitoring wells (W18, W20, W21, W23, W27, W33, W101, W105, W117, W119, W120, W121, W129, W130, W131, W132, W133, W136, W143, W420, W421, W422, W427, W431, W433, W434, W437, W438, and W439), Hardcoat Inc. industrial well (W29), Methodist Hospital irrigation well (W48 abandoned 2015) Edina Country Club irrigation wells (ECC #2, and ECC #3), and Edina municipal water production wells (E2, E6, E7, E13, E15). Well construction details, where available, are provided on Table 3.

3.3 Monitoring Well Sampling

Monitoring well groundwater sampling events were conducted by the MPCA in April to June 2013 (AECOM, 2013A), and May 2014 (AECOM, 2014C). Groundwater elevations were also obtained in January 2015 (AECOM, 2015); no samples were collected during this event. Select groundwater samples were analyzed in the field for temperature, pH, conductivity, and oxygen/reduction potential in 2013, 2014 and 2015. Groundwater samples were submitted for laboratory analysis of VOCs (Method 8260). Sample analytical results from the monitoring wells are summarized on Table 4.

3.4 Site Hydrogeology

The most recent groundwater elevation measurements (2015) are presented on Table 5. A groundwater elevation contour map (Figure 6) was created using this data. The map illustrates an east-southeasterly groundwater flow direction in the drift aquifer, consistent with historical information. The horizontal hydraulic gradient calculated along the flow line was 1×10^{-3} .

Figures 3.A and 3.B illustrate the soil stratigraphy and groundwater elevations across transect lines in select areas of the Site.

3.5 Groundwater Analytical Results

As discussed above, groundwater samples were collected from both temporary monitoring wells and from permanent monitoring wells. The analytical results are summarized on Tables 2 and 4, and select areas are illustrated on Figure 5. Chlorinated solvents, most notably PCE, were detected in multiple groundwater samples collected at the Site. The contamination was noted in multiple aquifers, and encompasses a large areal extent of St. Louis Park (Figure 7). The primary area of groundwater contamination appears to be in the vicinity of the Former Super Radiator Coils/current Tall Sales building and Eclipse Electric.

The groundwater concentration of PCE in some locations at this site (maximum PCE 21 mg/L) is greater than 1% of the aqueous solubility of PCE ($1\%S_{PCE} = 1.5$ mg/L) and thus may be indicative of non-aqueous phase liquids (Schwille, 1988 and Mercer 2010). In addition to PCE, TCE (160 µg/L), cis-DCE (14,000 µg/L), and VC (240 µg/L) were detected at concentrations in excess of regulatory limits near the suspected source areas. PCE, TCE, cis-DCE, and VC were also detected in municipal water production wells throughout the Site. Maximum recent concentrations were 10 µg/L, 108 µg/L, 190 µg/L, and 62 µg/L (respectively).

3.6 Initial Soil Vapor Intrusion Assessment

Although vapor intrusion is not a component of the Hazard Ranking System (HRS), vapor intrusion assessment (VIA) activities were also completed by the MPCA in 2006, 2009, 2014 and 2015 to evaluate the potential for VOC soil vapors in the subsurface below Site buildings near the suspected source areas. Activities included:

- The advancement of 22 temporary soil vapor probes in November 2006 (SVP1 to SVP22) to a depth of 8 feet. The probes were advanced throughout the Elmwood, Brooklawns, Lenox, and Sorensen neighborhoods of St. Louis Park.
- The advancement of 35 temporary soil vapor probes between March and May 2009 (each designated as VP1, VP2 or VP3) to depths ranging from 8 to 10 feet. The probes were advanced on the Tall Sales, Eclipse Electric, MinValco, Lighting Plastics, Family Digest, Pampered Pooch,

Kaufenberg, Ace Supply, Care Cleaners, Techna Graphics, Bryant Graphics, and Prof. Instruments properties.

- The advancement of nine temporary soil vapor probes in February and March 2014 (VP-1 and VP-2 [two probes each], VP-3 through VP-5, SB-1-VP, and SB-3-VP) to depths ranging from 7 to 8 feet. The probes were advanced near suspected source areas (Flame Metals and Eclipse Electric).
- The installation and sampling of 99 permanent soil vapor monitoring points (constructed to a depth of 8 feet) in March to April 2014 in the Elmwood (VP-001 through VP-004, VP-101 through VP-117, VP-201 through VP221, and VP-302 through VP-319), Lennox (VP-401 through VP-409, VP-501 through VP-511, VP-601 through VP-613), and Sorenson (VP-701 through VP-706) neighborhoods..
- The sampling of 51 sub-slab soil vapor monitoring points (constructed to a depth of 8 feet) installed in commercial buildings in the Lenox and Elmwood neighborhoods, and in the vicinity of Eclipse Electric (MVSS-1 through MVSS-8, SSV-1, through SSV-6, SSV-8, SSV-9, SSV-11, SSV-13 through SSV-23, PPSS-1 through PPSS-4, TSSS-1 through TSSS-6, SSV-MN, SSV-MS, SV-MN2, SSV-MS2) from March to May 2014, December 2014, and March 2015.
- The collection of six indoor air samples (MIA-1, MIA-2, and MVIA-1 through MVIA-4) in two commercial buildings near the suspected source area in March 2015.
- Inspection of selected residences with sub-slab vapor mitigation systems installed by the EPA in 2008. Inspections occurred in March 2014 and March 2015.
- The advancement of numerous passive soil-vapor samplers (Gore Sorbers) 2007 to 2014 in the vicinity of the suspected source areas.

Selected investigation locations are illustrated on Figures 2.F to 2.H. All soil vapor samples were collected directly into six liter Summa® canisters and submitted for chemical analysis utilizing the EPA TO-15 method for the compounds in the Minnesota Soil Gas List.

Soil vapor analytical results are summarized in Tables 6, and 7. Analytical results noted the following:

- Soil vapor data collected in 2007 identified VOCs at all sampled locations. Benzene, PCE, TCE, and 1,2,4-trimethylbenzene were consistently detected at concentrations exceeding screening values. Concentrations exceeded the screening values by ten to over one thousand times in the suspected source areas and in the Brooklawns neighborhood.
- Soil vapor data collected in 2009 identified nine sites (Tall Sales, Eclipse Electric, MinValco, Lighting Plastics, Pampered Pooch, Kaufenberg, Ace Supply, Care Cleaners, Prof. Instruments) with PCE and TCE concentrations above 10X the screening values. Sites with the highest soil vapor VOC concentrations were Eclipse Electric and Care Cleaners.
- *Eclipse Electric (2014 to 2015)*: PCE was detected at concentrations exceeding 100x the Industrial/Commercial Intrusion Screening Value (ISV) and acute ISV in the temporary soil vapor probes. Sub-slab samples identified PCE and TCE at concentrations exceeding the 10X Industrial/Commercial and acute ISVs.
- *Elmwood Neighborhood (2014 to 2015)*: Chlorinated solvents were not identified at concentrations exceeding 100X the residential ISV in the samples collected.

- *Lennox Neighborhood (2014 to 2015)*: Chlorinated solvents were not identified at concentrations exceeding 10X or 100X the residential ISV for the residential permanent and sub-slab samples. TCE was identified in two industrial properties: MinValco and Marathon. A sub-slab sample and an indoor air sample from MinValco exceeded the 10X Industrial ISV. Two sub-slab samples from Marathon identified TCE at concentrations exceeding the 10X Industrial ISV; however, indoor air samples did not exceed the 10X Industrial ISV.
- *Sorenson Neighborhood (2014 to 2015)*: Chlorinated solvents were not identified at concentrations exceeding 100X the residential ISV in the samples collected.
- Passive soil-vapor samples identified several “hot-spots” coincident with the suspected source areas.

4.0 PRELIMINARY EXPOSURE PATHWAY ASSESSMENT

As part of the preliminary assessment process, potential exposure pathways were evaluated for the site. The pathways evaluated include surface water, direct soil contact, air, groundwater, and drinking water. The Site contains multiple land uses, including but not limited to: residential, commercial, industrial, recreational, and vacant. Public access to the Site and nearby properties is generally not restricted. Public access to the buildings is limited by locked doors.

4.1 Surface Water

Meadowbrook Lake is present in the western portion of the Site, and Minnehaha Creek is present in the western and southern portions of the Site. Numerous smaller natural surface water bodies are present within 1,000 feet of the Site, most notably to the west and south (Figure 1). Exposure risk to surface water at the Site itself appears to be limited, as the majority of the Site is covered with pavement or buildings.

Additionally, Minnehaha Creek (which discharges to the Mississippi River) is not present within the identified suspected source areas. Depending upon contaminant loading to Minnehaha Creek, there may be potential for exposure risk at the Mississippi River. Shallow soil sampling results did not indicate the presence of contaminants that could be entrained in surface water runoff from the site. The data do not appear to suggest that any significant completed surface water exposure pathways exist at this site at this time.

4.2 Direct Soil Exposure

Significant concentrations of PCE are present in shallow soil (3') and deeper soil (40'-70') at the Site. The risk of direct soil exposure is not expected to be significant because most of the suspected source areas are paved or occupied by buildings at this time. In general, the shallower soil impacts appear to be isolated, and it is not expected that potential future development work would entail excavation of deeper contaminated soil. Therefore, it appears that the risk of direct soil exposure by occupants, workers, residents, or the public is low.

However, if redevelopment in the shallower soil (such as for building foundations, etc.) were to occur, the potential exists to encounter contaminated soil, which would lead to an increased risk of direct soil exposure to workers, residents, and/or building occupants.

4.3 Soil Vapor

Temporary soil vapor boring, sub-slab soil vapor, and indoor air sample testing results indicate that chlorinated volatiles are present in the soil gas at this site at concentrations that exceed risk-based regulatory criteria (Table 8). Multiple vapor mitigation systems were installed by the EPA in 2008, and the MPCA is continuing to install additional mitigation systems in the vicinity of the suspected source areas. Additionally, the MPCA continues to monitor permanent soil vapor monitoring points in residential neighborhoods to evaluate risk to nearby residences. At this time, soil vapor is not an exposure pathway recognized in the Hazard Ranking System scoring process under CERCLA.

4.4 Groundwater

Groundwater sampling results indicate that chlorinated volatiles are present in the groundwater at this Site at concentrations that exceed regulatory criteria (Table 4), as evidenced by concentrations detected in the monitoring well network utilized for the Reilly Tar Site (Figure 2). Groundwater contamination is known to exist in the drift, OSP and OPCJ aquifers, and encompasses a large areal extent of St. Louis Park and Edina (Figure 7). Risk of direct exposure (ingestion) to contaminated groundwater at this site appears to be fairly high because 135 registered domestic supply wells are within ½ mile of the Site, and there are an additional 119 registered domestic supply wells within one mile of the Site. However, there may be additional water supply wells nearby that were installed before well registration was required (1974).

Populations and Water Supply Wells Located Within 4 Mile Target Distance Limit

Distance from Site	Population Within Distance Zones	Public Water Supply Wells	Commercial/Industrial/Irrigation Supply Wells	Domestic Supply Wells
0 to ¼ mile	20,181	7	35	90
¼ to ½ mile	10,290	4	6	45
½ mile to 1 mile	28,561	14	8	119
1 mile to 2 miles	59,177	38	24	172
2 miles to 3 miles	96,312	42	68	346
3 miles to 4 miles	113,944	66	61	461
Total within 4 miles	328,465	171	203	1233

Populations developed from 2010 US Census block group data. Well information derived from Minnesota Department of Health County Well Index data.

4.5 Drinking Water

The extent to which shallow ground water influences local surface water quality has not been determined at this time. Regional groundwater flow in this area is to the east-southeast toward the Mississippi River, located approximately 7.2 miles from the Site. The Mississippi River serves as the sole drinking water source for the city of Minneapolis (population 382,578; 2010 census). Although the Minneapolis boundary is just 1.35 miles east of the Site the nearest major water intakes for municipal water supplies lie several miles upstream from the Minnehaha Creek outfall. Municipal water intakes on the Mississippi river downstream from the Minnehaha Creek outfall are more than 15 river-miles downstream.

Contaminated groundwater at the Site has migrated downward through the drift, OSP and OPCJ aquifers, which serve as the principal water supply aquifers to the area. Cities, within four miles of the Site, that obtain their water supply from groundwater include St. Louis Park, Edina, Hopkins, Plymouth and Minnetonka. There are currently 35 registered commercial water supply wells and seven public water supply wells located within $\frac{1}{4}$ mile of the site (Figure 8). Within $\frac{1}{2}$ mile of the site lie six more commercial and four more public water supply wells. Within $\frac{1}{2}$ to one mile of the site, there are 14 additional public supply wells and 8 commercial supply wells. The population within $\frac{1}{2}$ mile of the site is approximately 30,471; all are served by municipal water supply. Between one mile and four miles of the site, there are 146 more public water supply wells, 153 commercial supply wells, and 979 additional domestic supply wells. In total, there are 328,465 people served by groundwater within a four mile radius of the Site.

In samples collected from St. Louis Park (SLP) Treatment Plant 4, concentrations of VC have consistently exceeded the HRL since 2004, and have exceeded the MCL 10 times since 2007. cis-DCE has also exceeded the HBV in samples collected from 2009 to present, and TCE concentrations have also exceeded the HBV seven times since 2009 (MDH Data received 8/12/15, Appendix A). VC and TCE concentrations have exceeded the MCL, and cis-DCE concentrations have exceeded the HBV in samples collected from municipal supply well SLP 6 since 2004 (AECOM 2013A). However, SLP6 is designated an emergency back up well and does not currently supply water to the municipal system. The water from SLP6 can be used for emergency supply if approved by the Minnesota Department of Health.

VC concentrations exceeded the MCL in multiple samples collected from Edina municipal well E7 in 2004. Due to the elevated VC concentrations well E7 was shut down until a treatment system could be constructed. Elevated concentrations of VC, above HRL/HBV, were detected in samples collected from Edina municipal wells E2, E13 and E15; The Edina water treatment system with air stripping technology came on line September 2012.

The interactions of groundwater and surface water are not understood at this time. However, multiple potable water supply wells are in close proximity to the Site, in an area of known groundwater contamination (Figure 7) present in principal drinking water aquifers. It appears that the exposure risk resulting from the site via the groundwater/drinking water pathway is significant.

5.0 CONCLUSIONS

Site investigation work indicates that potential sources of VOC contamination are present in an area near Edgewood Avenue and Oxford Street in St. Louis Park. The data derived from the investigations indicates initial discharges in the suspected source areas migrated downward through porous site soils, eventually coming into contact with the groundwater table.

Soil, groundwater, and soil vapor concentrations from beneath Site buildings indicate that dense non-aqueous phase liquid (DNAPL) may be present beneath the suspected source areas. The presence of dense non-aqueous phase liquid (DNAPL) is considered likely when a concentration exceeds 1% of a compound's aqueous solubility (EPA, 2004). At this time, there is not sufficient data available to determine the extent and magnitude of any potential DNAPL source areas. Additional investigation is necessary to determine the extent and magnitude of the release and the suspected source areas.

PCE and/or its degradation daughter products have been detected at concentrations exceeding acceptable regulatory limits in several monitoring wells and municipal water supply wells throughout the Site. Several potential source areas are currently under investigation. However, there is not sufficient data available to characterize the potential for human health or environmental exposure.

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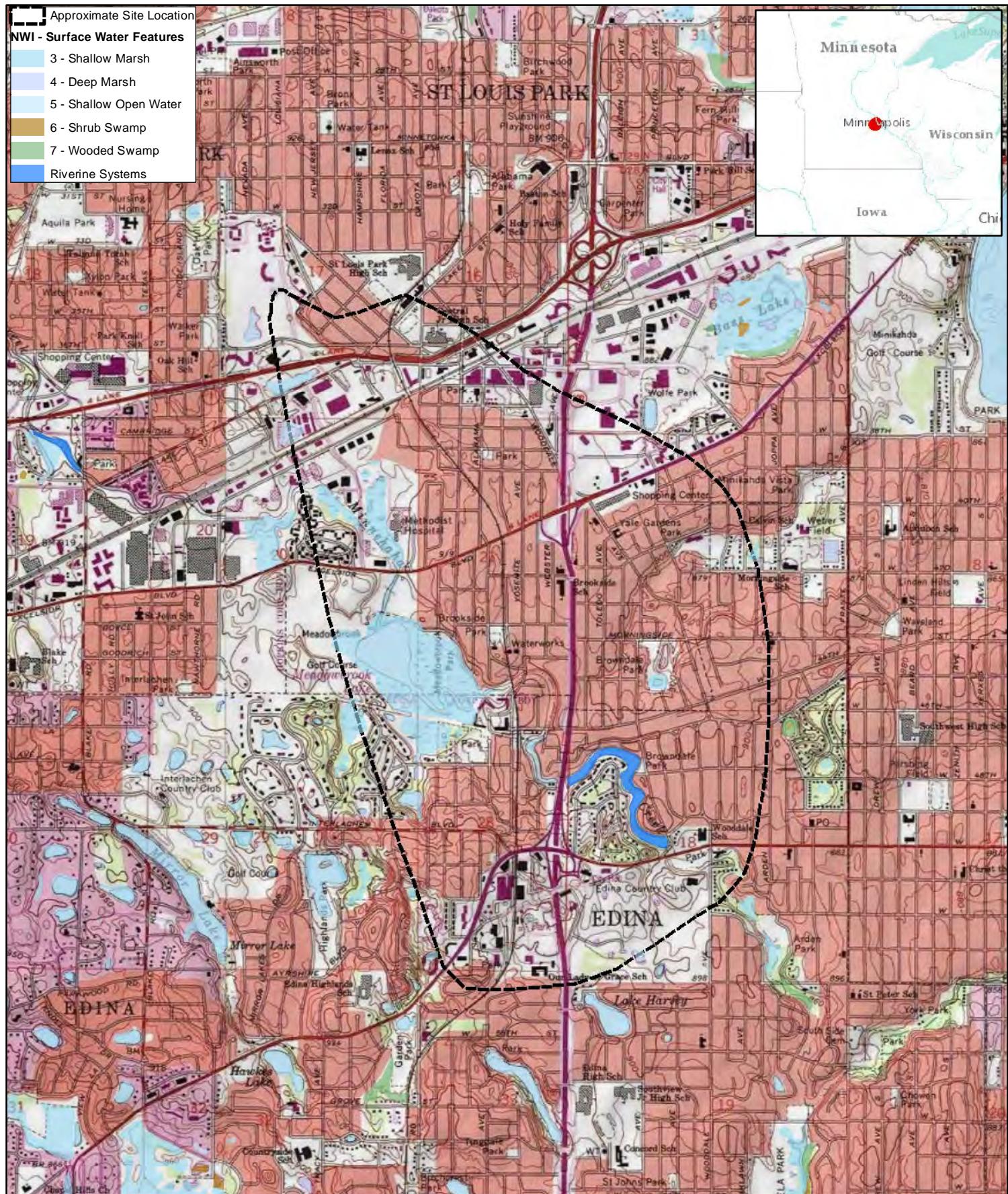
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FIGURES



Figure 1
Site Location
St. Louis Park Solvent Plume
St. Louis Park & Edina, Minnesota
MPCA SA4542, SR377, SR358





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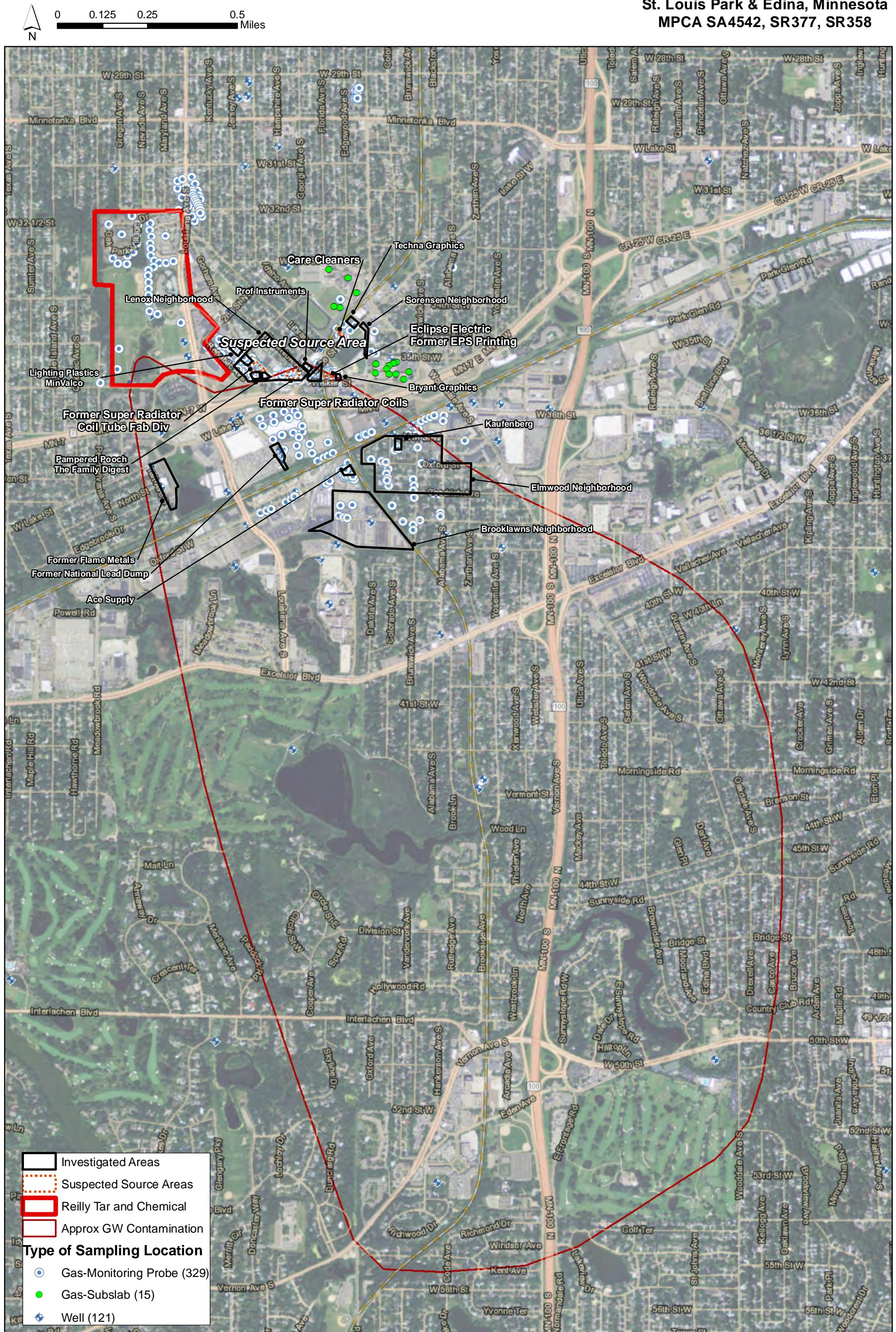


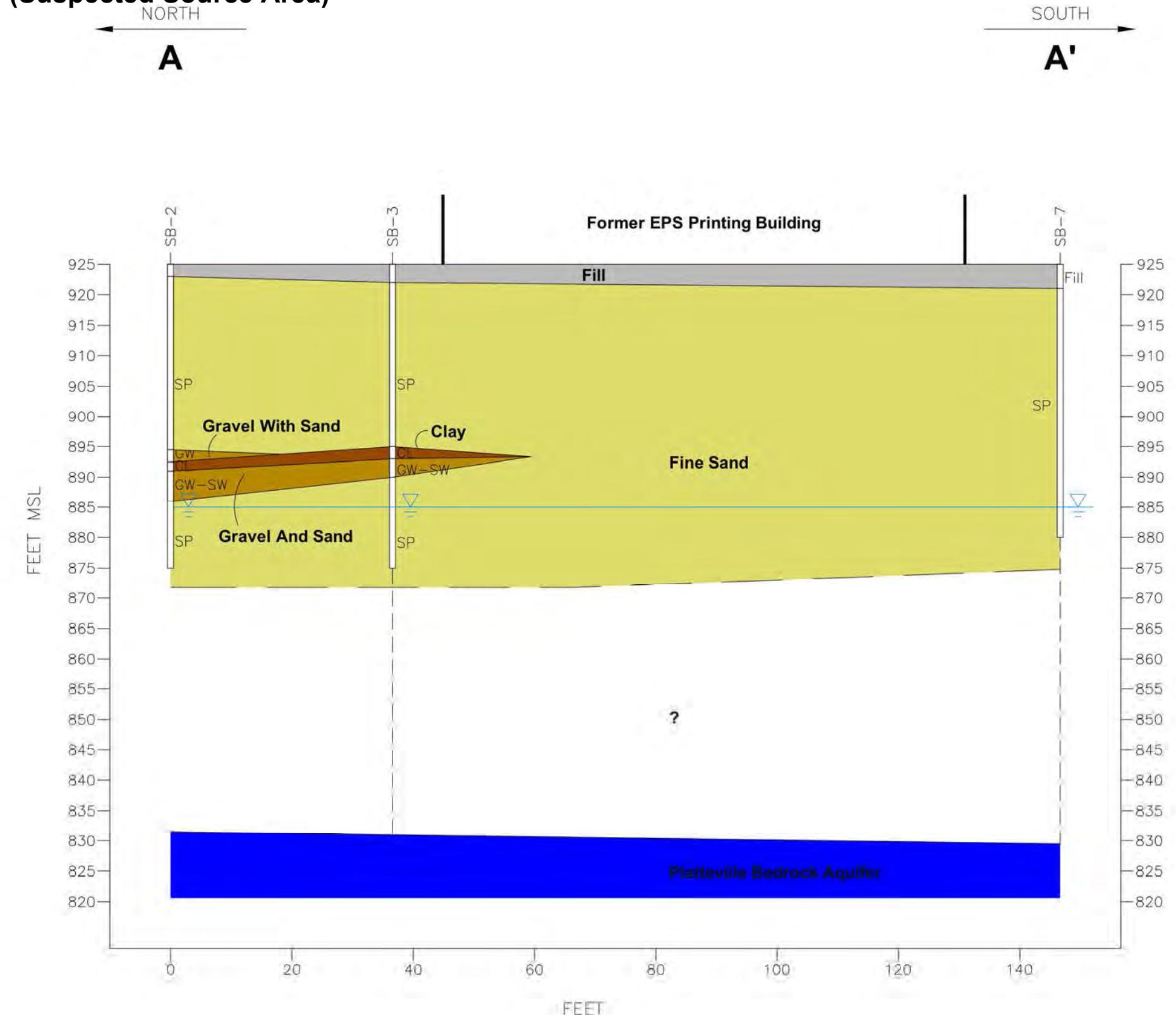
FIGURE 3A-Geologic Cross Section, EPS Printing (Suspected Source Area)



LEGEND

APPROXIMATE GROUNDWATER ELEVATION BASED
ON GROUNDWATER BORINGS

GROUNDWATER BORING ADVANCED TO BEDROCK



MPCA - Former EPS Printing
6518 Walker St, St. Louis Park, MN
Project # 60309548

DATE: 02/18/14

DRW#: TD/MN

Cross Section A-A'



Former Super Radiator Coils Intersection of Walker Street and Lake Street W

St. Louis Park, MN 55426

St. Louis Park, Minnesota

Project No.: 60335087 Date: 4/15/2015

Soil Boring/Monitoring We

AECOM

FIGURE 3B-Geologic Cross Section, Former Super Radiator Coils Area (Suspected Source Area)

FIGURE 3B.1-Geologic Cross Section A-A', Former Super Radiator Coils Area (Suspected Source Area)

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Checked: _____
Designer: _____

Project Management Initials: _____ Designer: _____

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Vertical exaggeration: 3x

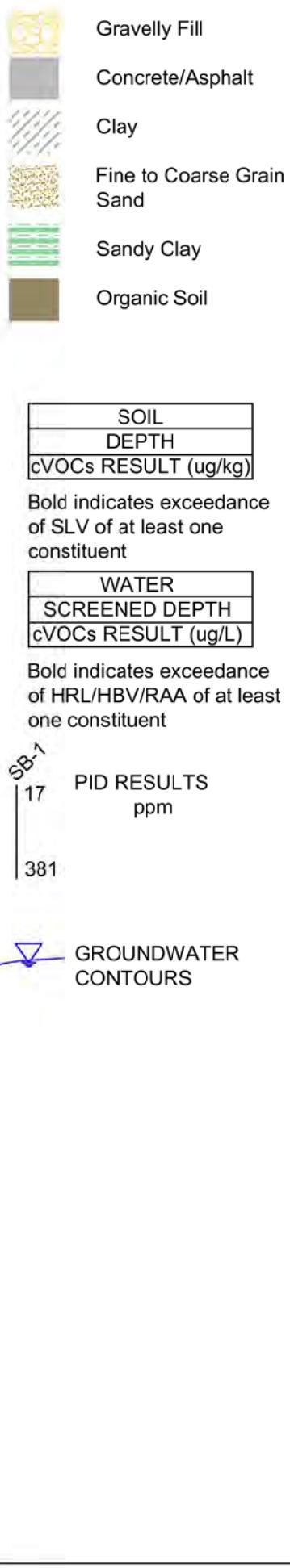
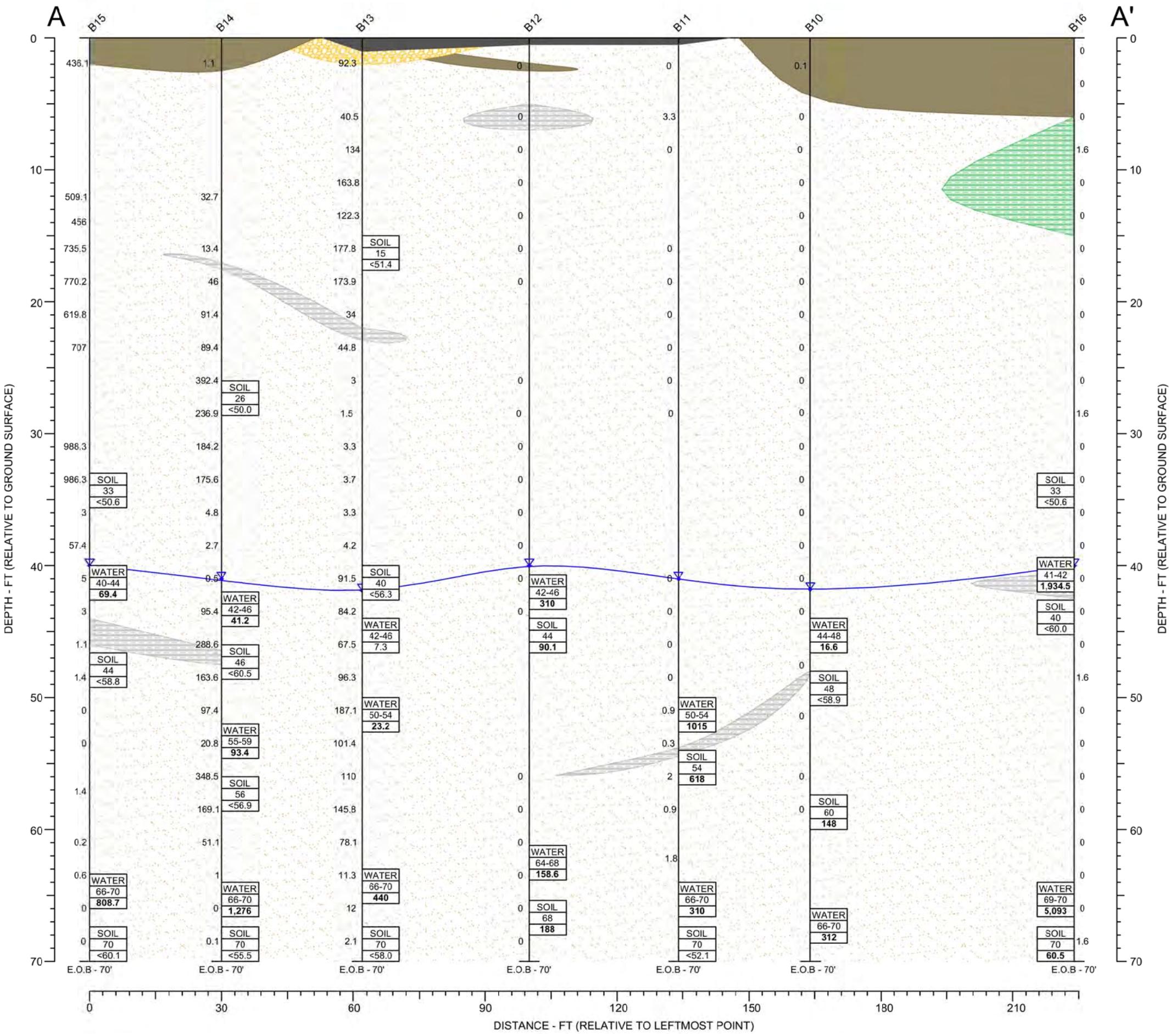


FIGURE 3B.3-Geologic Cross Section C-C', Former Super Radiator Coils Area (Suspected Source Area)

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FIGURES 4B-C-D - OTALCVOC.DWG

WORKINGDOCS-CADICADISRCFIGURES

4B-C-D

ST. LOUIS PARK INVESTIGATION FY15900

FY15900

ENVMP-CAFY15

PROJECT TS160335087

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FIGURES\4B-C-D.DWG

Vertical exaggeration: 5x

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Designer: _____

Project Management Initials:

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FIGURES 4B-C-D - OTALCVOC.DWG

WORKINGDOCS-CADICADISRCFIGURES

4B-C-D

ST. LOUIS PARK INVESTIGATION FY15900

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PROJECT TS160335087

KLAUSBI(2015-04-15)

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FIGURES\4B-C-D.DWG

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FIGURES 4B-C-D - OTALCVOC.DWG

WORKINGDOCS-CADICADISRCFIGURES

4B-C-D

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FIGURES\4B-C-D.DWG

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FIGURES 4B-C-D - OTALCVOC.DWG

WORKINGDOCS-CADICADISRCFIGURES

4B-C-D

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ENVMP-CAFY15

PROJECT TS160335087

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FIGURES\4B-C-D.DWG

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FIGURES 4B-C-D - OTALCVOC.DWG

WORKINGDOCS-CADICADISRCFIGURES

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FIGURES 4B-C-D - OTALCVOC.DWG

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FIGURES\4B-C-D.DWG

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FIGURES 4B-C-D - OTALCVOC.DWG

WORKINGDOCS-CADICADISRCFIGURES

4B-C-D

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FIGURES 4B-C-D - OTALCVOC.DWG

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FIGURES 4B-C-D - OTALCVOC.DWG

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4B-C-D

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FIGURES\4B-C-D.DWG

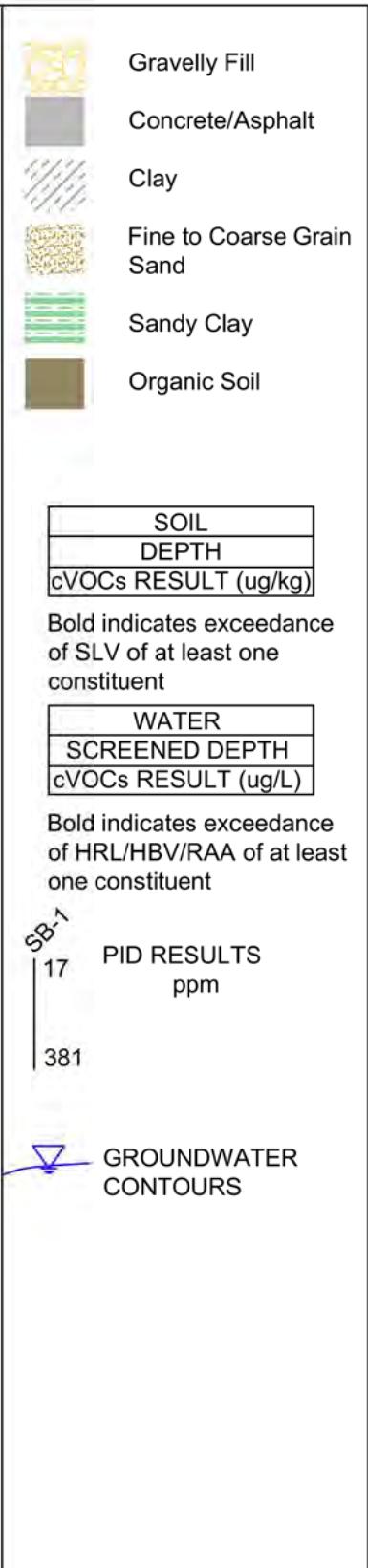
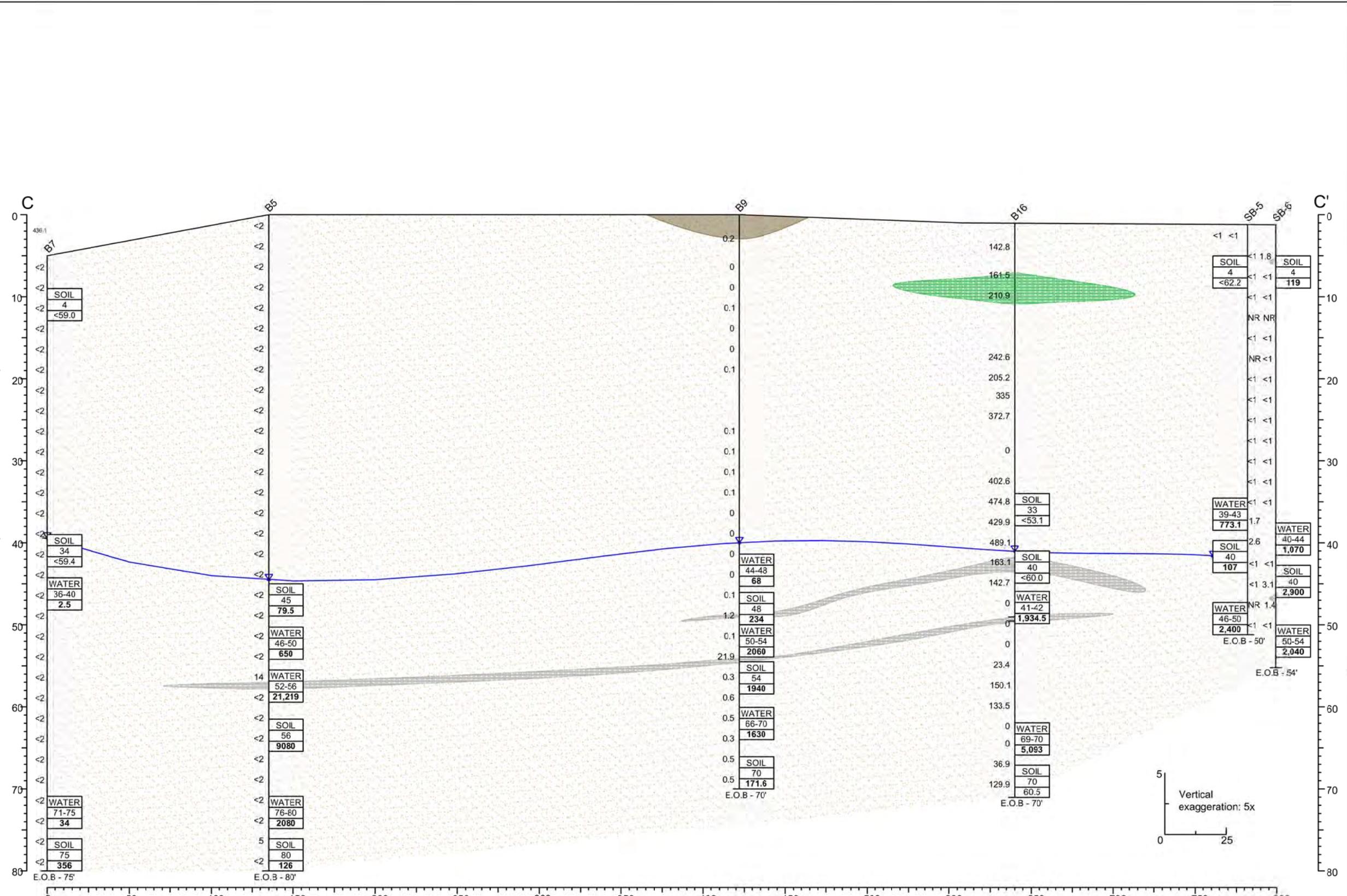
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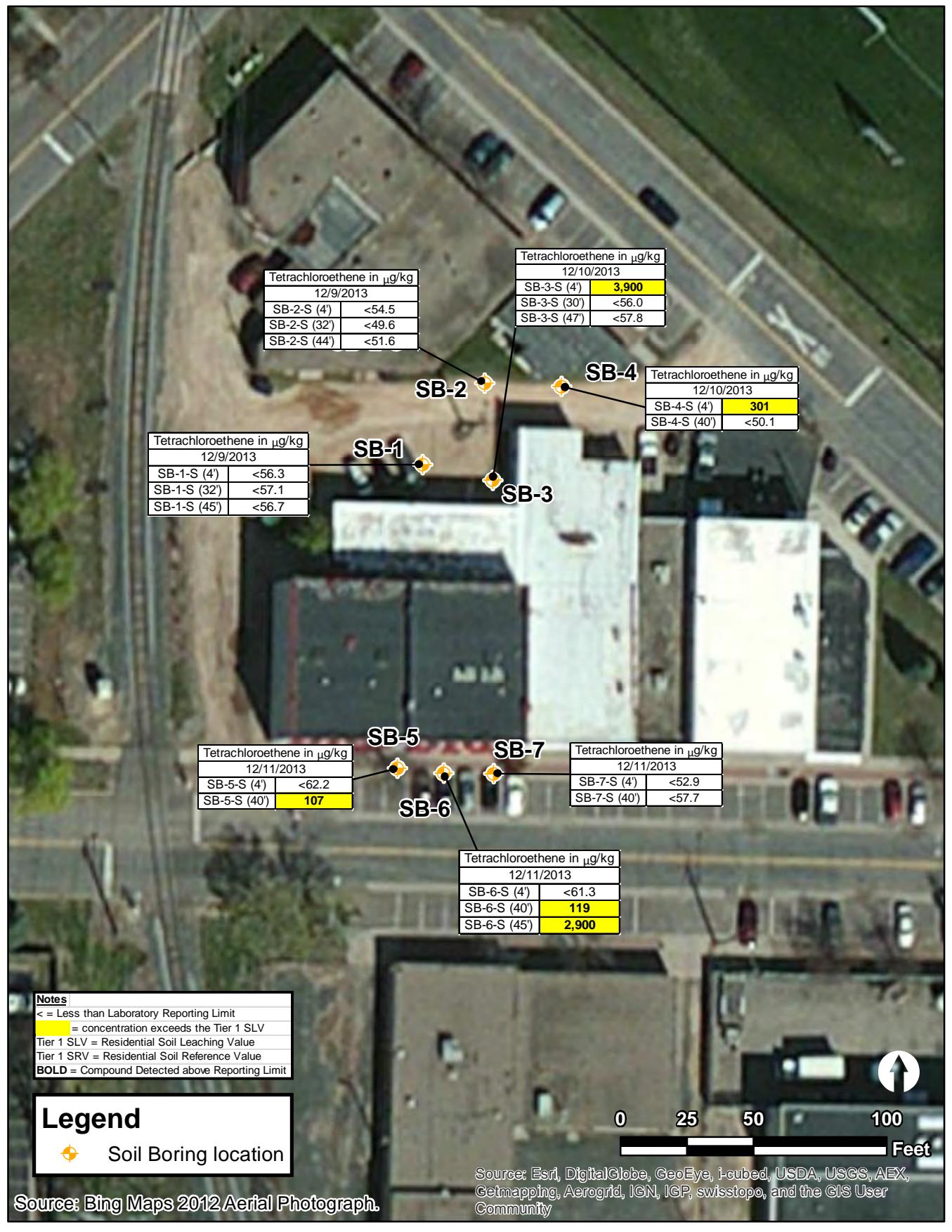
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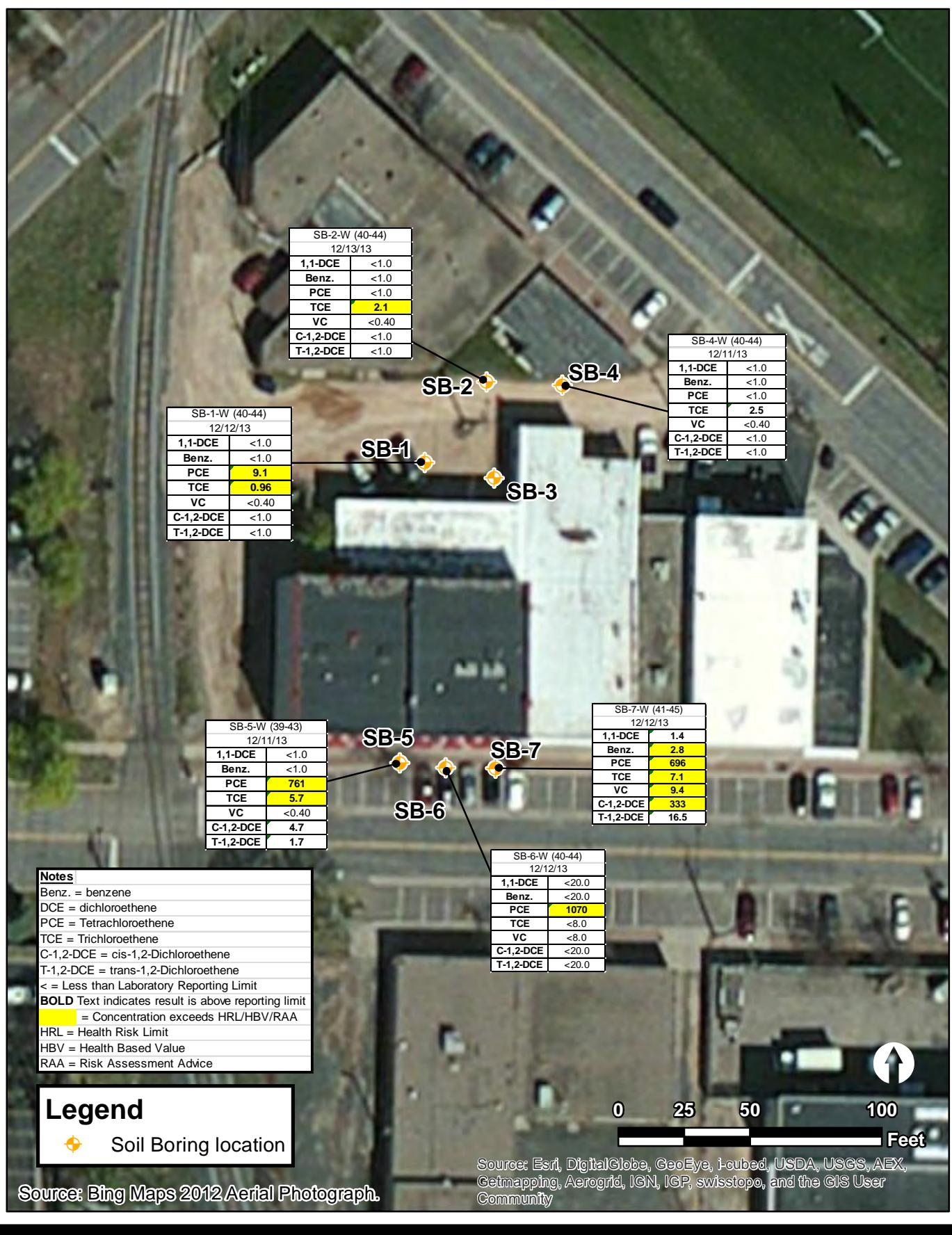
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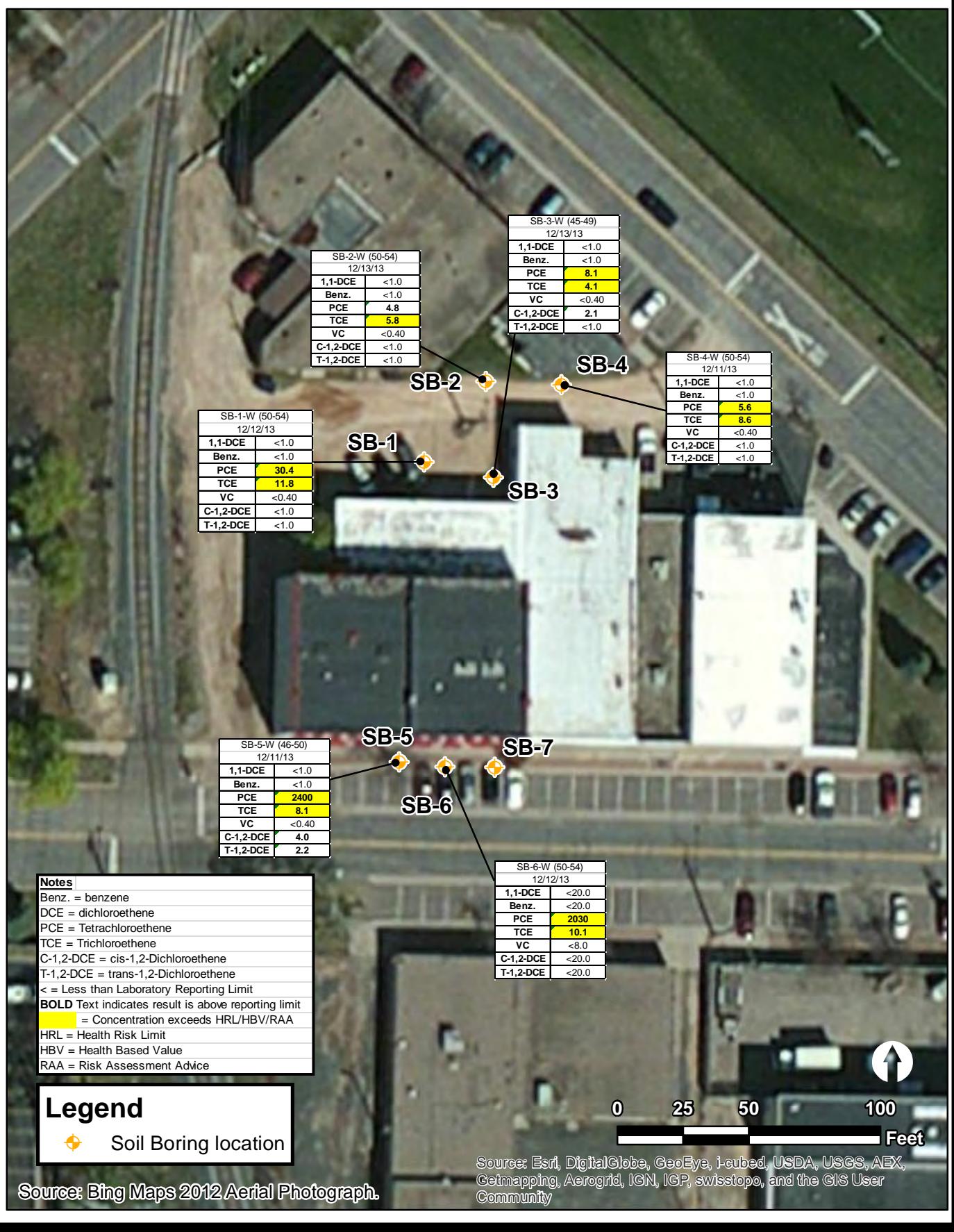


Total cVOC Groundwater Isoconcentrations in Suspected Source Area

Figure: 5A





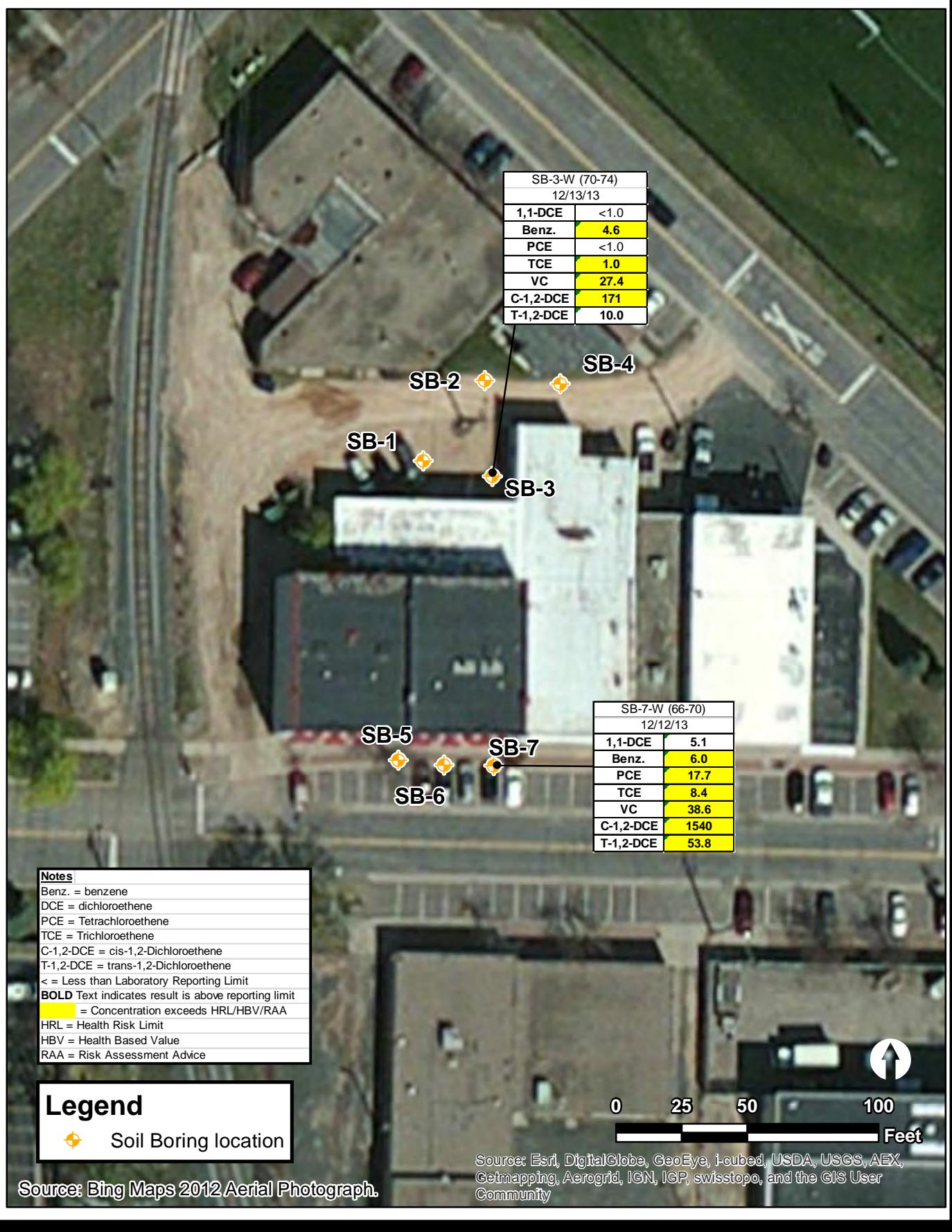


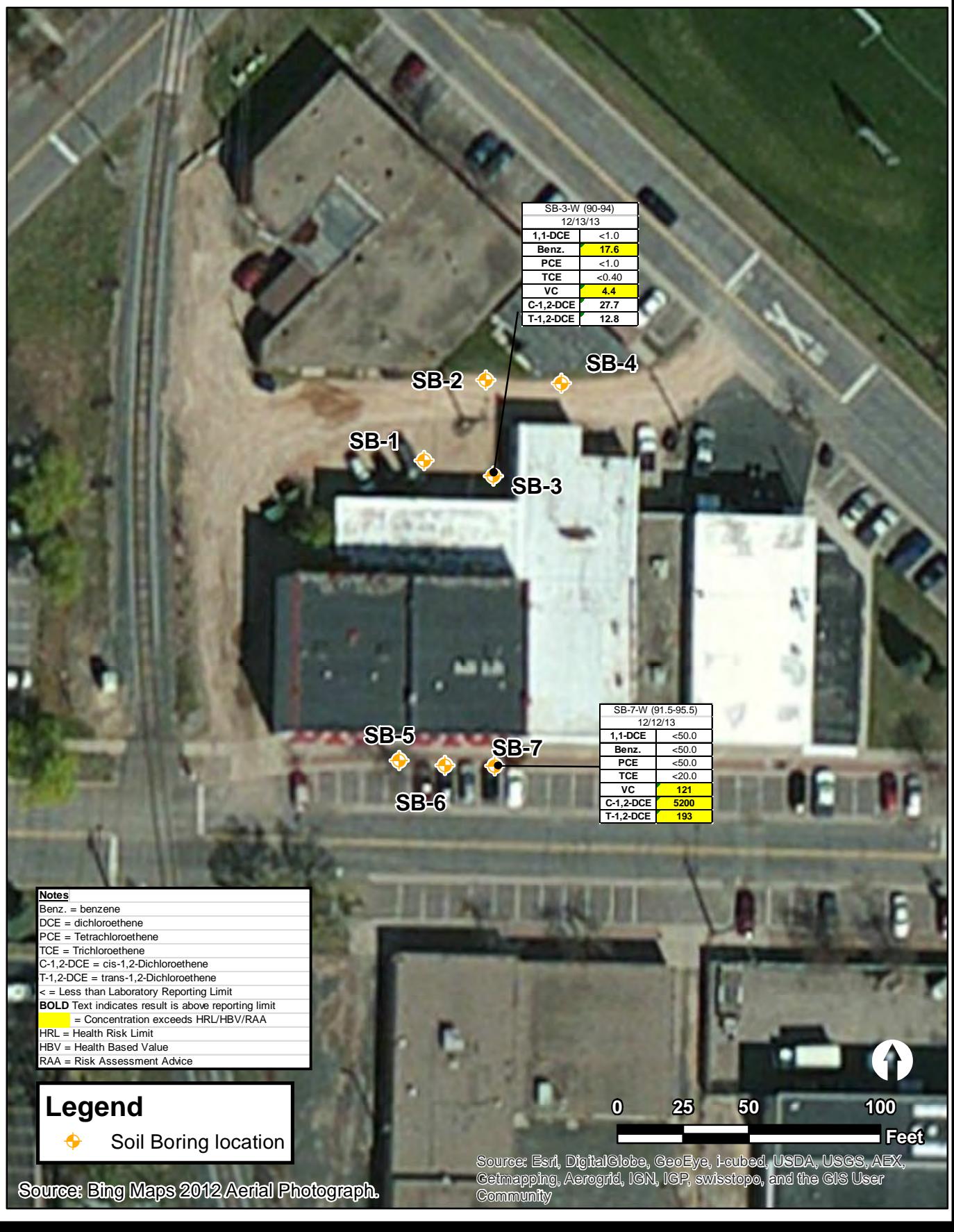
MPCA - Former EPS Printing (Source Area)
 6518 Walker Street
 St. Louis Park, Minnesota
 Project No.: 60309548 Date: 2/18/2014

Groundwater Analytical Results
 45-55' Below Ground Surface

AECOM

Figure: 5.B.2





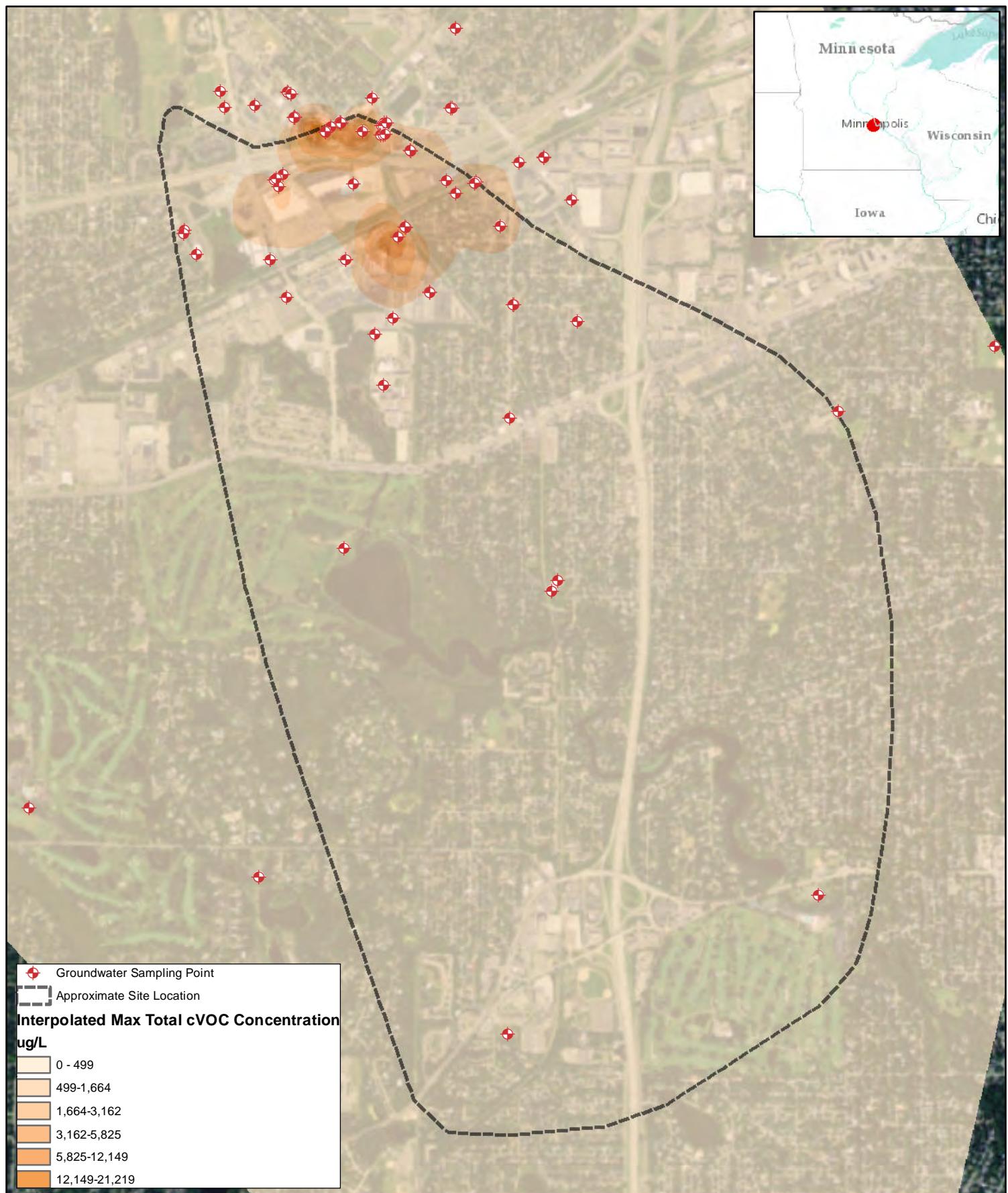


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0 0.175 0.35 0.7 Miles

Figure 5.C
Region-Wide Interpolated Max Total Chlorinated VOC Concentrations
St. Louis Park Solvent Plume
St. Louis Park & Edina, Minnesota
MPCA SA4542, SR377, SR358





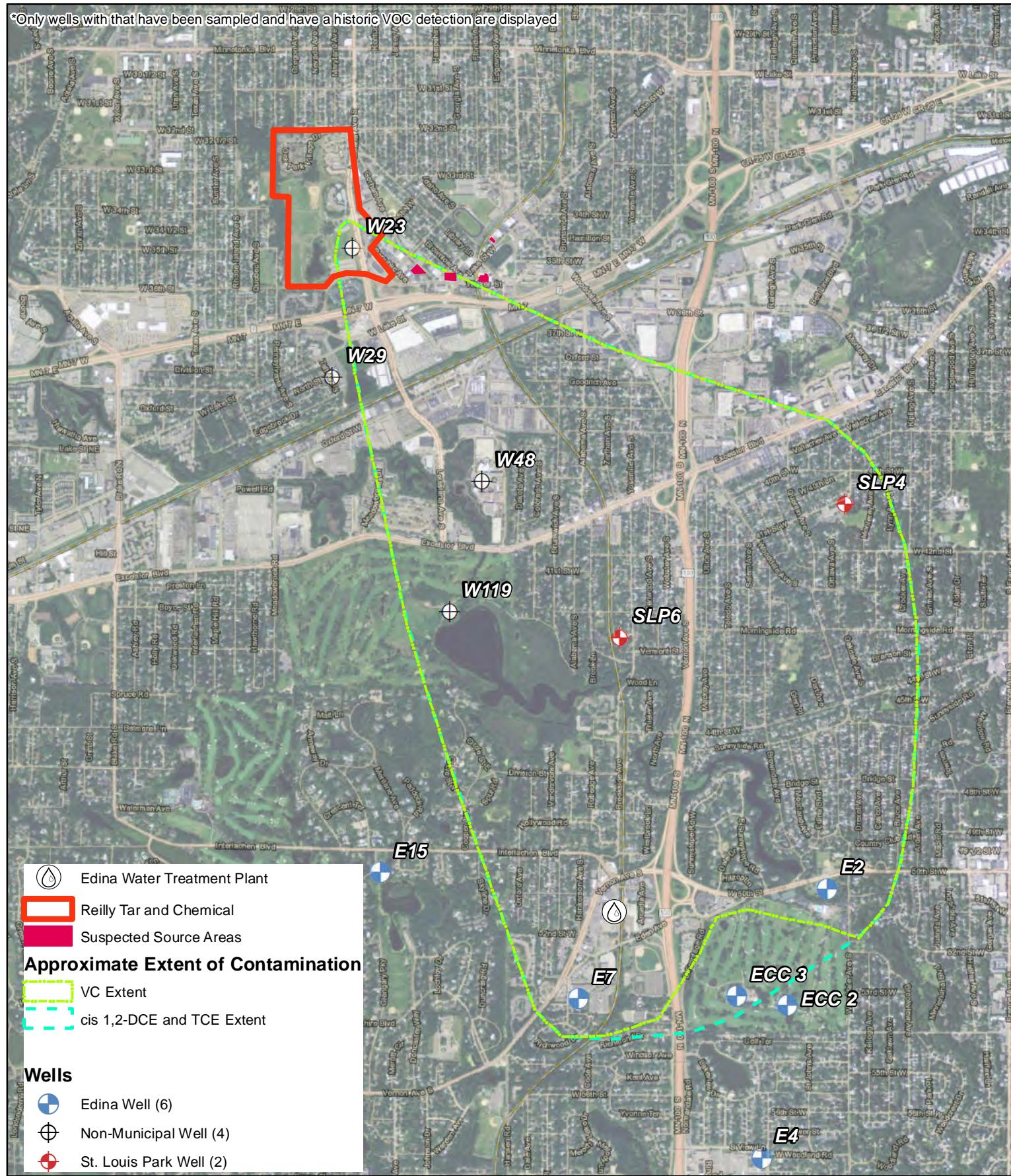
St. Louis Park Groundwater Elevations
St. Louis Park, MN 55426
St. Louis Park, MN 55426
Project No.: 60335087 Date: 4/30/2015

Drift Aquifer
Groundwater Contours



0 0.25 0.5 Miles

Figure 7
Contaminated Public Supply Wells
St. Louis Park Solvent Plume
St. Louis Park & Edina, Minnesota
MPCA SA4542, SR377, SR358

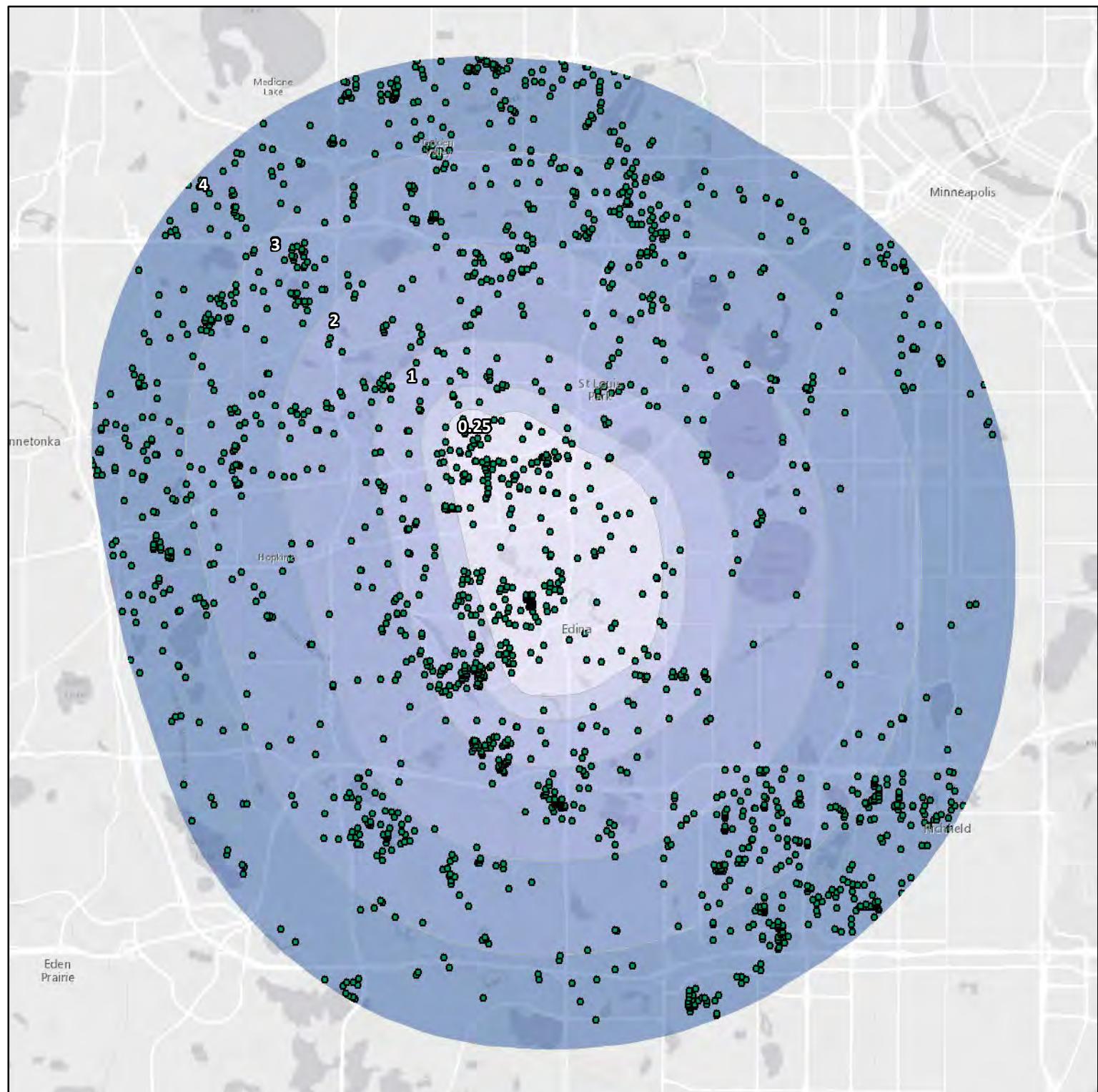


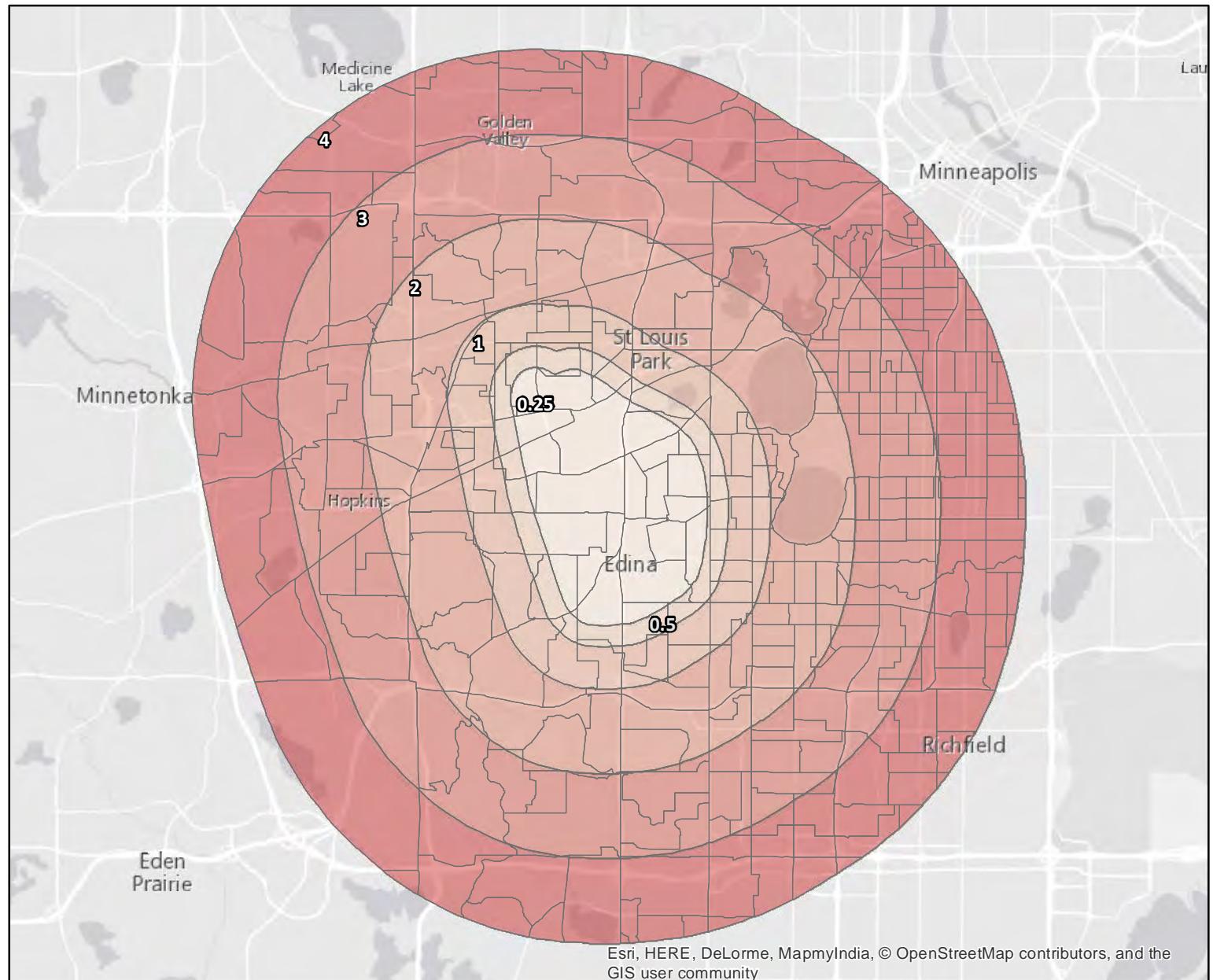
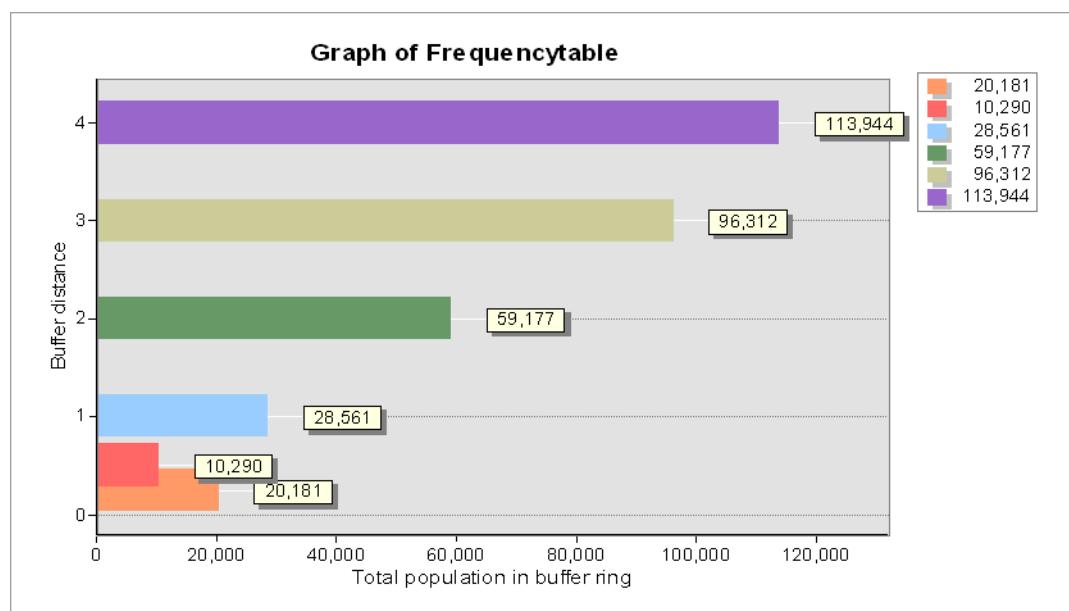


Minnesota Pollution Control Agency

Figure 8
Water Supply Wells in Site Vicinity
St. Louis Park Solvent Plume
St. Louis Park & Edina, Minnesota
MPCA SA4542, SR377, SR358

- Wells within the buffer area - see table for additional information





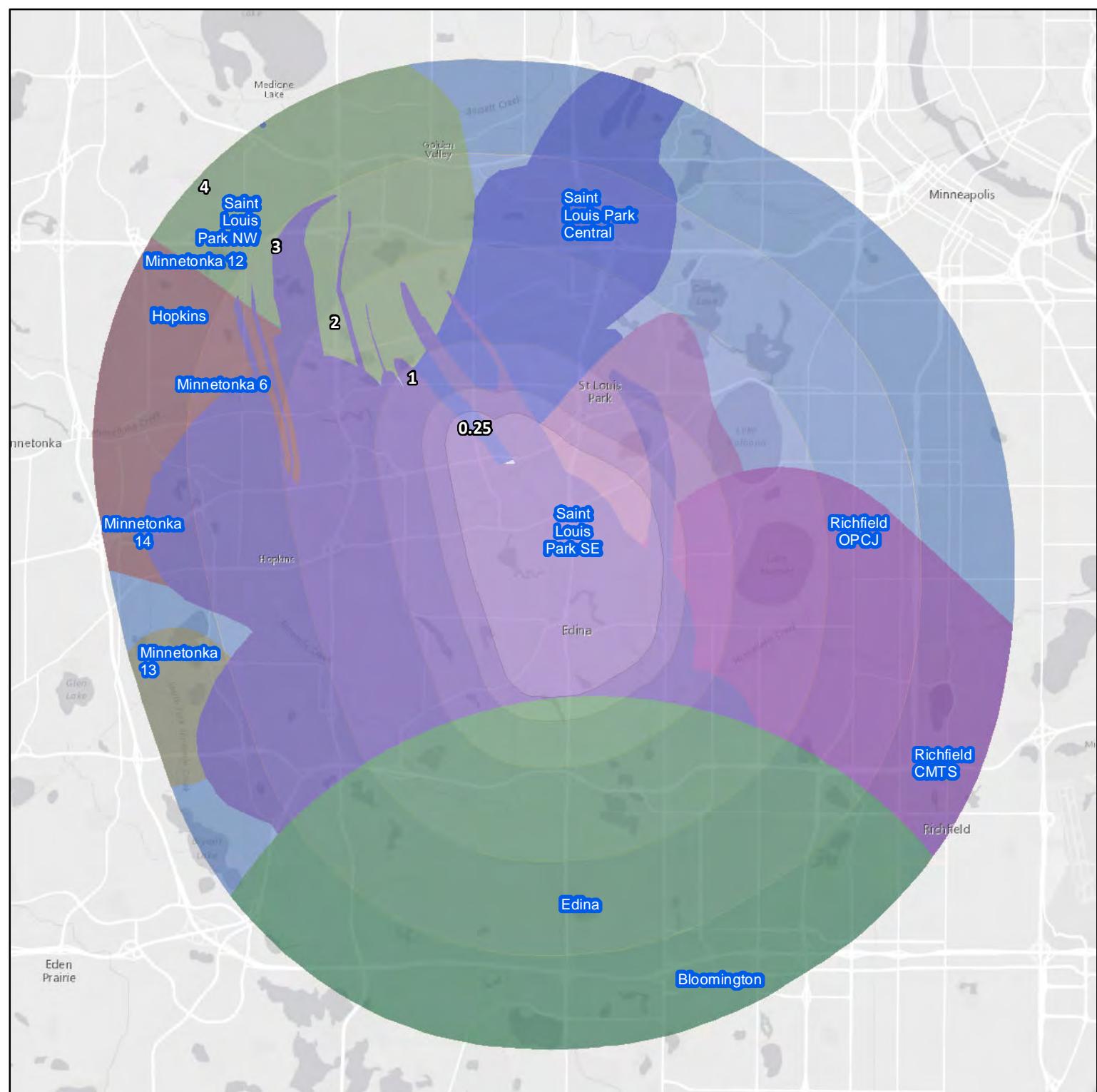


Minnesota Pollution Control Agency

Figure 10
Water Supply Wellhead Protection Areas
St. Louis Park Solvent Plume
St. Louis Park & Edina, Minnesota
MPCA SA4542, SR377, SR358

WHP NAME

Bloomington	Minnetonka 12	Richfield CFIG	Saint Louis Park NW
Edina	Minnetonka 13	Richfield CMTS	Saint Louis Park SE
Hopkins	Minnetonka 14	Richfield OPCJ	Sun Valley Mobile Home Park
	Minnetonka 6		Saint Louis Park Central



TABLES

**Table 1. Soil Samples VOC Analytical Results -
(only detected VOCs included)**

Chemical	CAS Number	Tier 1 SLV	Tier 1 SRV (Residential)
Lab Sample ID:			
Sample Depth (ft):			
Column No.: 1	2	3	4
Percent Moisture			
Concentrations	[ug/kg]	[ug/kg]	
Acetone	67-64-1	7.00E+02	3.40E+05
Tetrachloroethylene (PCE)	127-18-4	7.00E+01	7.20E+04
1,2,4-Trimethylbenzene	95-63-6	NA	8.00E+03
o-Xylene	95-47-6	NA	4.50E+04

B1	B2	B3	B1	B2	B3	B1	B1 - DUP	B2	B3	B1	B2
Tall Sales, 6714 Walker St.	Tall Sales, 6714 Walker St.	Tall Sales, 6714 Walker St.	Eclipse Electric, 6512 Walker St.	Eclipse Electric, 6512 Walker St.	Eclipse Electric, 6512 Walker St.	MiniValco, 3340 Gorham Ave.	Lighting Plastics, 3326 Gorham Ave.	Lighting Plastics, 3326 Gorham Ave.			
1090353003	1090353002	1090353001	1090531001	1090431001	1090431002	1090531002	1090531003	1090611001	1090611002	1090640001	1090640002
28	21	25	32	3	27	29.5	29.5	26	21	16	19
5	6	7	8	9	10	11	12	13	14	15	16
2.2	3.7	2.3	2.7	14.4	2.9	4.6	4.5	3.6	2.0	1.7	3.6
[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	3.52E+04	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	4.08E+02	ND	ND	ND	ND	ND	ND	ND

Notes:

ND - Below Laboratory Report Limit

Tier 1 SLV - Tier 1 Soil Leaching Values, June 27, 2005 - Risk Based Guidance for Evaluating the Soil Leaching Pathway, MPCA Website: <http://www.pca.state.mn.us/cleanup/riskbasedoc.html>

Tier 1 SRV - Tier 1 Soil Reference Values, December 2008 - Risk-Based Guidance for the Soil - Human Health Pathway, MPCA Website: <http://www.pca.state.mn.us/publications/risk-tier1srv.xls>

 - Detected concentration exceeds Tier 1 SLV

 - Detected concentration exceeds Tier 1 SRV

NA - No Value Available

**Table 1. Soil Samples VOC Analytical Results -
(only detected VOCs included)**

Chemical	CAS Number	Tier 1 SLV	Tier 1 SRV (Residential)
Lab Sample ID:			
Sample Depth (ft):			
Column No.: 1	2	3	4
Percent Moisture			
Concentrations	[ug/kg]	[ug/kg]	
Acetone	67-64-1	7.00E+02	3.40E+05
Tetrachloroethylene (PCE)	127-18-4	7.00E+01	7.20E+04
1,2,4-Trimethylbenzene	95-63-6	NA	8.00E+03
o-Xylene	95-47-6	NA	4.50E+04

B2-DUP	B-3	B-1	B-2	B-3	B-1	B-2	B-3	B-1	B-2	B-2 DUP	B-3	B-1	B-2	
Lighting Plastics, 3326 Gorham Ave.	Lighting Plastics, 3326 Gorham Ave.	Family Digest, 7008 Walker St.	Family Digest, 7008 Walker St.	Family Digest, 7020 Walker St.	Pampered Pooch, 7020 Walker St.	Pampered Pooch, 7020 Walker St.	Pampered Pooch, 7020 Walker St.	Kaufenberg, 6225 37 th St. W.	Ace Supply, 6425 Oxford St.	Ace Supply, 6425 Oxford St.				
1090640003	1090640004	1092050001	1092050002	1092050003	1092172001	1092172002	1092232001	1092232002	109237001	109237002	109237003	1094258001	109237000	
19	10	26	26	27	22	27	50	30	30	30	30	32	17.5	
17	18	26	27	28	19	20	21	22	23	24	25			
3.6	3.2	4.7	7.1	2.5	7.0	3.0	2.7	8.0	5.2	4.4	3.0	11.2	1.3	
[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ND	5.2E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

Notes:

ND - Below Laboratory Report Limit

Tier 1 SLV - Tier 1 Soil Leaching Values, June 27, 2005 - Risk Based Guidance for Eva

Tier 1 SRV - Tier 1 Soil Reference Values, December 2008 - Risk-Based Guidance for t

 - Detected concentration exceeds Tier 1 SLV

 - Detected concentration exceeds Tier 1 SRV

NA - No Value Available

**Table 1. Soil Samples VOC Analytical Results -
(only detected VOCs included)**

Chemical	CAS Number	Tier 1 SLV	Tier 1 SRV (Residential)
Lab Sample ID:			
Sample Depth (ft):			
Column No.: 1	2	3	4
Percent Moisture			
Concentrations	[ug/kg]	[ug/kg]	
Acetone	67-64-1	7.00E+02	3.40E+05
Tetrachloroethylene (PCE)	127-18-4	7.00E+01	7.20E+04
1,2,4-Trimethylbenzene	95-63-6	NA	8.00E+03
o-Xylene	95-47-6	NA	4.50E+04

	B-3	B-1	B-2	B-3	B-3 DUP	B-1	B-2	B-3	B-1	B-2	B-1	B-2	B-3
	Ace Supply, 6425 Oxford St.	Care Cleaners, 6528 Lake St. W.	Care Cleaners, 6528 Lake St. W.	Care Cleaners, 6528 Lake St. W.	Techna Graphics, 6500 Lake St. W.	Techna Graphics, 6500 Lake St. W.	Techna Graphics, 6500 Lake St. W.	Bryant Graphics, 6504 Walker St.	Bryant Graphics, 6504 Walker St.	Prof. Instruments, 6824 Lake St. W.			
i4	1094258002	1092372001	1092372002	1094366001	1094366002	1094366003	1094467001	1094467002	1094467003	1094582001	1094582002	1094695002	1094695001
	32	36	40	40	42	32	40	40	40	42	42	44	44
	29	30	30	30	42	42	42						
	10.6	2.2	2.4	14.3	13.1	19.3	1.1	13.7	1.7	9.6	5.5	3.7	12.5
	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]	[ug/kg]
	ND	ND	ND	ND	ND	ND	ND	ND			3.14E+01	ND	ND
	ND	ND	ND	ND	ND	ND	ND	ND	3.70E+00	ND	1.09E+01	5.90E+00	ND
	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

ND - Below Laboratory Report Limit

Tier 1 SLV - Tier 1 Soil Leaching Values, June 27, 2005 - Risk Based Guidance for Eva

Tier 1 SRV - Tier 1 Soil Reference Values, December 2008 - Risk-Based Guidance for t

- Detected concentration exceeds Tier 1 SLV

- Detected concentration exceeds Tier 1 SRV

NA - No Value Available

Table 1
Soil Analytical Results

		Benzene	PCE	cis-1,2-Dichloroethene
Sample Location	SLV	17.2	41.5	208.0
	Residential SRV	6,000	72,000	8,000
	Industrial SRV	10,000	131,000	22,000
	Date			
Figure 3A-Former Super Radiator Coils	B6-S-65	1/20/2015	<23.1	<57.9
	B6-S-65-Y	1/20/2015	<24.2	<60.5
	B7-S-70	1/19/2015	<22.4	<55.9
	B8-S-53	1/19/2015	<23.8	240
	B8-S-70	1/19/2015	<21.5	164
	B9-S-48	1/16/2015	<24.3	234
	B9-S-54	1/16/2015	<46.7	1940
	B9-S-70	1/16/2015	<23.3	58.6
	B10-S-48	1/14/2015	<23.6	<58.9
	B10-S-60	1/14/2015	<22.4	148
	B11-S-54	1/12/2015	<24.3	618
	B11-S-70	1/13/2015	<20.9	<52.1
	B12-S-44	1/15/2015	<22.2	90.1
	B12-S-68	1/15/2015	<22.5	188
	B13-S-15	1/20/2015	<20.6	<51.4
	B13-S-40	1/21/2015	<22.5	<56.3
	B13-S-70	1/21/2015	<23.2	<58.0
	B14-S-26	1/21/2015	<20.0	<50.0
	B14-S-46	1/21/2015	<24.2	<60.5
	B14-S-56	1/21/2015	<22.7	<56.9
	B14-S-70	1/21/2015	<22.2	<55.5
	B15-S-33	1/28/2015	<20.2	<50.6
	B15-S-44	1/28/2015	<23.5	<58.8
	B15-S-44-Y	1/28/2015	<23.4	<58.4
	B15-S-70	1/28/2015	<24.1	<60.1
	B16-S-33	1/28/2015	<21.2	<53.1
	B16-S-40	1/28/2015	<24.0	<60.0
	B16-S-70	1/28/2015	<22.8	<57.0
	B16-S-70-Y	1/28/2015	<21.7	60.5
Figure 3B-Former National Lead	B17-S-32	1/22/2015	<22.6	<56.6
	B17-S-58	1/23/2015	<25.1	<62.7
	B17-S-67	1/23/2015	24.2	<58.5
	B18-S-23	1/26/2015	<23.4	<58.5
	B18-S-42	1/26/2015	<23.5	<58.7
	B18-S-65	1/26/2015	<23.1	<57.8
	B19-S-42	1/27/2015	<23.1	<57.8
	B19-S-65	1/27/2015	<21.7	<54.3
	B19-S-73	1/27/2015	<21.6	<54.0
	Trip Blank	1/19/2015	<20.0	<50.0
			<50.0	<50.0

< = Less than Reporting Limit

Bold = Above Reporting Limit

YELLOW BACKGROUND = concentration exceeds SLV/SRV

SLV = Residential Soil Leaching Value established by MPCA

SRV = Soil Reference Value established by MPCA

concentrations are reported in micrograms per kilogram (ug/kg)

Only compounds detected are shown

-S designates a soil sample

-Y designates a duplicate sample

-N designates a non-duplicate sample

Table 1
Soil Analytical Results
St. Louis Park Solvent Plume - Former EPS Printing - St. Louis Park, Minnesota
Concentrations are Reported in µg/kg
Partial Listing - Only Compounds Detected are Listed

Sample Identification (Depth in ft.)		SB-1-S (4')	SB-1-S (32')	SB-1-S (45')	SB-2-S (4')	SB-2-S (32')	SB-2-S (44')	SB-3-S (4')	SB-3-S (30')	SB-3-S (47')	SB-4-S (4')	SB-4-S (40')	SB-5-S (4')	SB-5-S (40')	SB-6-S (4')	SB-6-S (40')	SB-6-S (45')	SB-7-S (4')	SB-7-S (40')	MeOH Blank	
Date		12/9/2013	12/9/2013	12/9/2013	12/9/2013	12/9/2013	12/9/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	9/9/2013	
Compound		Tier 1 SLV	Tier 1 SRV																		
Tetrachloroethene	41.5*	72,000	<56.3	<57.1	<56.7	<54.5	<49.6	<51.6	3,900	<56.0	<57.8	301	<50.1	<62.2	107	<61.3	119	2,900	<52.9	<57.7	<50.0

Notes

< = Less than Laboratory Reporting Limit

Tier 1 SLV = Residential Soil Leaching Value

Tier 1 SRV = Residential Soil Reference Value

BOLD = Compound Detected above Reporting Limit

Yellow = concentration exceeds the Tier 1 SLV

* = Laboratory reporting limit is greater than established Tier 1 SLV

Table 1
Soil Analytical Results
Borings

Chemical	Super Radiator Coils Tube Fab Division										Super Radiator Coils								Sidal Realty						
	B1-S-N-36	B1-S-N-55	B1-S-N-80	B2-S-N-38	B2-S-N-39	B2-S-N-45	B3-S-N-4	B3-S-N-36	B3-S-N-50	B4-S-N-4*	B4-S-Y-4**	B4-S-N-48	B5-S-N-45	B5-S-N-56	B5-S-N-80	B6-S-N-4	B6-S-N-48	B7-S-N-4	B7-S-N-34	B7-S-N-75	B7-S-Y-75	Trip Blank	SLV	Residential SRV	Industrial SRV
Naphthalene	< 225	< 223	363	< 239	< 239	468	< 210	< 238	797	< 230	< 249	< 223	< 239	< 254	< 224	< 211	< 229	< 236	< 238	< 255	< 226	< 200	4,470	10,000	28,000
Tetrachloroethylene	< 56.1	< 55.7	< 53.3	< 59.8	< 59.7	< 55.8	< 52.5	< 59.5	< 61.2	< 57.6	< 62.2	57.5	79.5	9080	< 55.9	< 52.6	< 57.3	< 59.0	< 59.4	< 63.7	< 56.6	< 50.0	41.5	72,000	131,000
cis-1,2- Dichloroethene	< 56.1	< 55.7	< 53.3	< 59.8	< 59.7	< 55.8	< 52.5	< 59.5	< 61.2	< 57.6	< 62.2	< 55.8	< 59.9	< 63.4	126	< 52.6	< 57.3	< 59.0	< 59.4	243	< 56.6	< 50.0	208	8,000	22,000
trans-1,2- Dichloroethene	< 56.1	< 55.7	< 53.3	< 59.8	< 59.7	< 55.8	< 52.5	< 59.5	< 61.2	< 57.6	< 62.2	< 55.8	< 59.9	< 63.4	< 55.9	< 52.6	< 57.3	< 59.0	< 59.4	113	< 56.6	< 50.0	416	11,000	33,000

< = Less than Reporting Limit

Bold = Above Reporting Limit

Exceedance of SLV/Residential SRV/Industrial SRV

SLV = Residential Soil Leaching Value established by MPCA

SRV = Soil Reference Value established by MPCA

All compounds described in µg/kg

* B4-S-N-4 was incorrectly labeled as B4-5-N-4 on Pace Analytical Report

** B4-S-Y-4 was incorrectly labeled as B4-5-S-Y-4 on Pace Analytical Report

Only compounds detected are shown

Table 1
Soil Analytical Results
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
 Partial Listing - Only Compounds Detected are Listed

Sample Identification (Depth in ft.)		SB-1-S (4')	SB-1-S (9')	SB-1-S (58')	SB-2-S (4')	SB-2-S (11')	SB-3-S (4')	SB-3-S (6')	SB-3-S (11')	SB-4-S (4')	SB-4-S (9')	SB-5-S (4')	SB-5-S (10')	SB-5-S (28')	SB-6-S (3')	SB-6-S (11')	MeOH Blank
Date		1/29/2014	1/29/2014	1/29/2014	2/3/2014	2/3/2014	1/31/2014	1/31/2014	1/31/2014	1/30/2014	1/30/2014	1/30/2014	1/30/2014	1/30/2014	1/31/2014	1/31/2014	1/29/2014
Compound	Tier 1 SLV	Tier 1 SRV															
None Detected	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes

Tier 1 SLV = Residential Soil Leaching Value

Tier 1 SRV = Residential Soil Reference Value

NA = not applicable

ND = not detected

**Table 2. Groundwater Samples VOC Analytical Results
(only detected VOCs included)**

Chemical	CAS Number	GW _{ISV}	Drinking Water Standard	W1, Tall Sales Co., 6714 Walker St.	W1 - Eclipse Electric, 6512 Walker St.	W1 DUP - Eclipse Electric, 6512 Walker St.	W2 - Eclipse Electric, 6512 Walker St.	W3 - Eclipse Electric, 6512 Walker St.	W1 - MinValco Inc., 3340 Gorham Ave.	W2 - MinValco Inc., 3340 Gorham Ave.	W1 - Lighting Plastics of MN, 3326 Gorham Ave.	W2 - The Family Digest 7008 Walker St.	W3 - The Family Digest 7008 Walker St.	W1 Pampered Pooch, 7020 Walker St.	W1 DUP Pampered Pooch, 7020 Walker St.	
		[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	
Lab Sample ID:				200904537	200904540	200904541	200904538	200904539	200904542	200904543	200904544	200906767	200906768	200906769	200906770	200906771
Acetone	67-64-1	5.00E+05	7.00E+02 HRL								2.90E+01					
Benzene	71-43-2	4.00E+01	2.00E+00 HRL	3.0E-01			5.00E-01	1.00E-01 J	4.70E+01 RC	4.80E+01 RC	7.60E+01 RC		7.0E-01		1.0E-01 J	1.0E-01 J
Bromodichloromethane	75-27-4	2.00E+01	6.00E+00 HRL													
Bromomethane	74-83-9	3.00E+01	1.00E+01 HRL													
tert-Butylbenzene	98-06-6							7.6E+00								
Chloroform	67-66-3	1.00E+03	3.00E+01 HRL		8.0E-02 J		5.0E-01	1.0E-01								
Chloromethane	74-87-3	2.00E+01					1.8E+00		1.1E+00		6.00E-01 J					
1,1-Dichloroethane	75-34-3	4.00E+03	7.00E+01 HRL	1.6E-01 J									2.0E-01 J			
1,2-Dichloroethane	107-06-2	2.00E+01	4.00E+00 HRL													
1,1-Dichloroethene	75-35-4	3.00E+02	2.00E+02 HRL	4.0E-01 J												
cis-1,2-Dichloroethylene	156-59-2	5.00E+02	5.00E+01 HRL	1.6E+01	4.0E-01	4.0E-01	1.0E-01 J		2.0E+00	1.0E-01 J			7.6E+01 RC	9.0E-01	2.3E+00	2.1E+00
trans-1,2-Dichloroethylene	156-60-5	3.00E+02	1.00E+02 HRL	1.3E+01	2.0E-01	2.0E-01			3.9E+00				2.0E+02 RC	1.4E+00	2.0E-01	2.0E-01
Dichlorofluoromethane	75-43-4	7.00E+01														
Ethylbenzene	100-41-4	7.00E+03	7.00E+02 HRL				4.6E-01 J		53 RC	5.9E+01 RC	1.70E+01					
Isopropylbenzene	98-82-8		3.00E+02 HRL*						1.1E+01	1.2E+01	3.00E+00					
p-Isopropyltoluene	99-87-6									8.0E-01						
Methylene chloride (dichloromethane)	75-09-2	4.00E+02	5.00E+00 HRL													
Naphthalene	91-20-3	1.00E+03	3.00E+02 HRL						1.80E+03 RC	1.30E+03 RC	3.50E+02 RC					
n-Propylbenzene	103-65-1								3.2E+00	2.7E+00	5.00E-01					
Styrene	100-42-5	2.00E+04	1.00E+02 MCL						1.6E+00							
Tetrachloroethylene (PCE)	127-18-4	6.00E+01	5.00E+00 HRL	2.0E-01	1.8E+03 RC	1.8E+03 RC	3.0E+00	1.1E+01	1.5E+00	6.0E-01	5.00E-01				9.0E-01	5.0E-01
Toluene	108-88-3	4.00E+04	1.00E+03 HRL	2.0E-01 J	0.1 J	0.2 J	7.0E-01	3.0E-01 J	3.5E+00	3.6E+00	1.20E+00	3.0E-01 J	4.0E-01 J	4.0E-01 J	9.0E-01	5.0E-01
1,1,1-Trichloroethane	71-55-6	3.00E+03	9.00E+03 HRL	1.0E-01 J	2.0E-01	2.0E-01						2.0E-01			2.0E-01	2.0E-01
1,1,2-Trichloroethane	79-00-5	4.00E+01	3.00E+00 HRL													
Trichloroethylene (TCE)	79-01-6	2.00E+01	5.00E+00 HRL	9.6E+00	4.4E+00	4.0E+00	2.9E+00	2.7E+00	6.9E+00	9.9E-02 J		5.4E+00	1.0E+02 RC	2.6E+01	3.9E+00	4.3E+00
1,2,4-Trimethylbenzene	95-63-6	7.00E+01							3.9E+01 RC	3.6E+01 RC	4.80E+00					
1,3,5-Trimethylbenzene	108-67-8	7.00E+01	1.00E+02 HRL						1.4E+01	8.5E+00	1.20E+00					
Vinyl Chloride	75-01-4	1.00E+00	2.00E-01 HRL	2.3E+00					3.4E+01 RC	3.8E+01 RC	1.00E+01		7.0E-01		2.0E-01	
o-Xylene	95-47-6	1.00E+03	1.00E+04 HRL						3.7E+01 RC	2.9E+01 RC	8.90E+00					
p&m-Xylene	106-42-3	108-38-3	8.00E+02	1.00E+04 HRL												

Notes:

- J - The analyte was positively identified. The result is below the report level and is estimated
- GW_{ISV} - Groundwater Intrusion Screening Values - Risk Based Guidance for the Vapor Intrusion Pathway. MPCA, Superfund RCRA and Voluntary Cleanup Section September 2008 - <http://www.pca.state.mn.us/publications/c-s4-06.pdf>
- HRL - Minnesota Health Risk Limits for Groundwater:
<http://www.health.state.mn.us/divs/eh/groundwater/hrltable.html>
- HRL* - Due to newly accumulated data MDH no longer recommends that value
- MCL - Maximum Contaminant Level
<http://www.epa.gov/safewater/contaminants/index.html#mcls>
- ND - Below Laboratory Report Level
- RC - Report level was changed due to sample dilution
- Measured groundwater concentration exceeds GW_{ISV}
- Measured groundwater concentration exceeds HRL/MCL

**Table 2. Groundwater Samples VOC Analytical Results
(only detected VOCs included)**

Chemical	CAS Number	GW _{ISV}	Drinking Water Standard	W2 Pampered Pooch, 7020 Walker St.	W3 Pampered Pooch, 7020 Walker St.	W1 Kaufenberg, 6225 37th St. W.	W1 DUP Kaufenberg, 6225 37th St. W.	W1 Ace Supply, 6425 Oxford St.	W2 Ace Supply, 6425 Oxford St.	W3 Ace Supply, 6425 Oxford St.	W1 Care Cleaners, 6528 Lake St. W.	W2 Care Cleaners, 6528 Lake St. W.	W3 Care Cleaners, 6528 Lake St. W.	W1 Techna Graphics, 6500 Lake St. W.	W2 Techna Graphics, 6500 Lake St. W.	W3 Techna Graphics, 6500 Lake St. W.	
		[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	
Lab Sample ID:				200906772	200906773	200911599	200911600	200911587	200911588	200911593	200906774	200906775	200911589	200911590	200911591	200911592	
Acetone	67-64-1	5.00E+05	7.00E+02 HRL														
Benzene	71-43-2	4.00E+01	2.00E+00 HRL														
Bromodichloromethane	75-27-4	2.00E+01	6.00E+00 HRL														
Bromomethane	74-83-9	3.00E+01	1.00E+01 HRL														
tert-Butylbenzene	98-06-6																
Chloroform	67-66-3	1.00E+03	3.00E+01 HRL														
Chloromethane	74-87-3	2.00E+01															
1,1-Dichloroethane	75-34-3	4.00E+03	7.00E+01 HRL														
1,2-Dichloroethane	107-06-2	2.00E+01	4.00E+00 HRL														
1,1-Dichloroethene	75-35-4	3.00E+02	2.00E+02 HRL														
cis-1,2-Dichloroethylene	156-59-2	5.00E+02	5.00E+01 HRL														
trans-1,2-Dichloroethylene	156-60-5	3.00E+02	1.00E+02 HRL														
Dichlorofluoromethane	75-43-4	7.00E+01															
Ethylbenzene	100-41-4	7.00E+03	7.00E+02 HRL														
Isopropylbenzene	98-82-8		3.00E+02 HRL*														
p-Isopropyltoluene	99-87-6																
Methylene chloride (dichloromethane)	75-09-2	4.00E+02	5.00E+00 HRL														
Naphthalene	91-20-3	1.00E+03	3.00E+02 HRL														
n-Propylbenzene	103-65-1																
Styrene	100-42-5	2.00E+04	1.00E+02 MCL														
Tetrachloroethylene (PCE)	127-18-4	6.00E+01	5.00E+00 HRL														
Toluene	108-88-3	4.00E+04	1.00E+03 HRL														
1,1,1-Trichloroethane	71-55-6	3.00E+03	9.00E+03 HRL														
1,1,2-Trichloroethane	79-00-5	4.00E+01	3.00E+00 HRL														
Trichloroethylene (TCE)	79-01-6	2.00E+01	5.00E+00 HRL														
1,2,4-Trimethylbenzene	95-63-6	7.00E+01															
1,3,5-Trimethylbenzene	108-67-8	7.00E+01	1.00E+02 HRL														
Vinyl Chloride	75-01-4	1.00E+00	2.00E-01 HRL														
o-Xylene	95-47-6	1.00E+03	1.00E+04 HRL														
p&m-Xylene	106-42-3	108-38-3	8.00E+02	1.00E+04	HRL												

Notes:

J - The analyte was positively identified. The result is below the report level and is estimated

GW_{ISV} - Groundwater Intrusion Screening Values - Risk Based Guidance for the Vapor Intrusion Pathway. MPCA, Superfund RCRA and Voluntary Cleanup Sector September 2008 - <http://www.pca.state.mn.us/publications/c-s4-06.pdf>

HRL - Minnesota Health Risk Limits for Groundwater:
<http://www.health.state.mn.us/divs/eh/groundwater/hrltable.html>

HRL* - Due to newly accumulated data MDH no longer recommends that value

MCL - Maximum Contaminant Level
<http://www.epa.gov/safewater/contaminants/index.html#mcls>

ND - Below Laboratory Report Level

RC - Report level was changed due to sample dilution

- Measured groundwater concentration exceeds GW_{ISV}

■ - Measured groundwater concentration exceeds HRL/MCL

**Table 2. Groundwater Samples VOC Analytical Results
(only detected VOCs included)**

Chemical	CAS Number	GW _{ISV}	Drinking Water Standard	W1 Bryant Graphics, 6504 Walker St.	W2 Bryant Graphics, 6504 Walker St.	W1 Prof. Instrument s, 6824 Lake St. W.	W2 Prof. Instrument s, 6824 Lake St. W.	W3 Prof. Instrument s, 6824 Lake St. W.	TRIP BLANK				
		[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]	[ug/L]
Lab Sample ID:				200911595	200911596	200911597	200911660	200911659	200904545	200906776	200911594	200911598	200911661
Acetone	67-64-1	5.00E+05	7.00E+02 HRL										
Benzene	71-43-2	4.00E+01	2.00E+00 HRL			1.0E-01 J		1.0E-01 J	1.0E-01 J				
Bromodichloromethane	75-27-4	2.00E+01	6.00E+00 HRL			3.0E-01							
Bromomethane	74-83-9	3.00E+01	1.00E+01 HRL						5.0E-01 J				
tert-Butylbenzene	98-06-6					5.0E-01		2.0E-01					
Chloroform	67-66-3	1.00E+03	3.00E+01 HRL										
Chloromethane	74-87-3	2.00E+01											
1,1-Dichloroethane	75-34-3	4.00E+03	7.00E+01 HRL										
1,2-Dichloroethane	107-06-2	2.00E+01	4.00E+00 HRL										
1,1-Dichloroethene	75-35-4	3.00E+02	2.00E+02 HRL										
cis-1,2-Dichloroethylene	156-59-2	5.00E+02	5.00E+01 HRL										
trans-1,2-Dichloroethylene	156-60-5	3.00E+02	1.00E+02 HRL										
Dichlorofluoromethane	75-43-4	7.00E+01											
Ethylbenzene	100-41-4	7.00E+03	7.00E+02 HRL										
Isopropylbenzene	98-82-8		3.00E+02 HRL*										
p-Isopropyltoluene	99-87-6												
Methylene chloride (dichloromethane)	75-09-2	4.00E+02	5.00E+00 HRL										
Naphthalene	91-20-3	1.00E+03	3.00E+02 HRL										
n-Propylbenzene	103-65-1												
Styrene	100-42-5	2.00E+04	1.00E+02 MCL										
Tetrachloroethylene (PCE)	127-18-4	6.00E+01	5.00E+00 HRL										
Toluene	108-88-3	4.00E+04	1.00E+03 HRL										
1,1,1-Trichloroethane	71-55-6	3.00E+03	9.00E+03 HRL										
1,1,2-Trichloroethane	79-00-5	4.00E+01	3.00E+00 HRL										
Trichloroethylene (TCE)	79-01-6	2.00E+01	5.00E+00 HRL										
1,2,4-Trimethylbenzene	95-63-6	7.00E+01											
1,3,5-Trimethylbenzene	108-67-8	7.00E+01	1.00E+02 HRL										
Vinyl Chloride	75-01-4	1.00E+00	2.00E-01 HRL										
o-Xylene	95-47-6	1.00E+03	1.00E+04 HRL										
p&m-Xylene	106-42-3	108-38-3	8.00E+02	1.00E+04	HRL								

Notes:

J - The analyte was positively identified. The result is below the report level and is estimated

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MCL - Maximum Contaminant Level
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ND - Below Laboratory Report Level

RC - Report level was changed due to sample dilution

- Measured groundwater concentration exceeds GW_{ISV}

■ - Measured groundwater concentration exceeds HRL/MCL

Table 2
Temporary Well Groundwater Analytical Results

Compounds	Sample Location			Former Super Radiator Coils									
				B6-W-(60-64)	B6-W-(66-70)	B7-W-(66-70)	B8-W-(50-54)	B8-W-(50-54)-Y	B8-W-(66-70)	B9-W-(44-48)	B9-W-(50-54)	B9-W-(66-70)	B10-W-(44-48)
	Date			1/20/2015	1/20/2015	1/20/2015	1/19/2015	Duplicate	1/16/2015	1/16/2015	1/16/2015	1/16/2015	1/14/2015
	Health Based Guidance Values			HRL	HBV	RAA							
1,1-Dichloroethane	NE	NE	100	<10.0	<10.0	<1.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
1,1-Dichloroethene	200	NE	NE	<10.0	<10.0	<1.0	<10.0	<10.0	13	<10.0	<10.0	<10.0	<1.0
1,2,4-Trimethylbenzene	NE	NE	100	<10.0	<10.0	<1.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
1,2-Dichloroethane	1	NE	NE	<10.0*	<10.0*	<1.0	<10.0*	<10.0*	<10.0*	<10.0*	<10.0*	<10.0*	<1.0
Benzene	2	NE	NE	<10.0*	<10.0*	11	<10.0*	<10.0*	34	<10.0*	<10.0*	39	<1.0
Dichlorodifluoromethane	700	NE	NE	<10.0	<10.0	<1.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
Ethylbenzene	50	NE	NE	<10.0	<10.0	<1.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
Isopropylbenzene (Cumene)	300	NE	NE	<10.0	<10.0	<1.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
Naphthalene	70	NE	NE	<10.0	<10.0	1.1	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
Tetrachloroethylene (PCE)	5	4	NE	<10.0*	<10.0*	1.8	480	490	57	52	1900	<10.0*	7.6
Trichloroethylene (TCE)	5	0.4	NE	13	<10.0*	<1.0*	20	21	<10.0*	<10.0*	40	<10.0*	1.5
Vinyl chloride	0.2	NE	NE	12	39	37	<10.0*	<10.0*	120	<10.0*	10	230	<1.0*
Xylene (Total)	300	NE	NE	<10.0	<10.0	<1.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<1.0
cis-1,2-Dichloroethene (DCE)	50	NE	NE	390	1600	210 D2	290	340	4700	16	99	1300	7.5
trans-1,2-Dichloroethene	40	NE	NE	<10.0	30	23	11	11	76	<10.0	11	100	<1.0

Notes:

< = less than laboratory reporting limit

BOLD text indicates result is above reporting limit

YELLOW BACKGROUND = concentration exceeds HRL/HBV/RAA

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NE = not established

* = laboratory reporting limit is greater than established HRL value

concentrations are reported in micrograms per liter (μL)

-W designates water sample

-Y designates a duplicate sample

-N designates a non-duplicate sample

D2 designates the sample required dilution due to high

concentration of target analyte

Table 2
Temporary Well Groundwater Analytical Results

Compounds	Sample Location			Former Super Radiator Coils									
	Date			B10-W-(66-70)	B11-W-(50-54)	B11-W-(66-70)	B12-W-(42-46)	B12-W-(64-68)	B13-W-(42-46)	B13-W-(50-54)	B13-W-(66-70)	B14-W-(42-46)	B14-W-(55-59)
	Health Based Guidance Values												
HRL	HBV	RAA											
1,1-Dichloroethane	NE	NE	100	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
1,1-Dichloroethene	200	NE	NE	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
1,2,4-Trimethylbenzene	NE	NE	100	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
1,2-Dichloroethane	1	NE	NE	<10.0*	<10.0*	<10.0*	<10.0*	<1.0	<1.0	<1.0	<10.0*	<1.0	<1.0
Benzene	2	NE	NE	<10.0*	<10.0*	<10.0*	<10.0*	<1.0	<1.0	<1.0	<10.0*	<1.0	<1.0
Dichlorodifluoromethane	700	NE	NE	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
Ethylbenzene	50	NE	NE	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
Isopropylbenzene (Cumene)	300	NE	NE	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
Naphthalene	70	NE	NE	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
Tetrachloroethylene (PCE)	5	4	NE	34	970	<10.0*	310 D2	73	<1.0	20	<10.0*	<1.0	5.3
Trichloroethylene (TCE)	5	0.4	NE	20	21	11	<10.0*	7.9	<1.0*	3.2	<10.0*	<1.0*	10
Vinyl chloride	0.2	NE	NE	<10.0*	<10.0*	17	<10.0*	3	<1.0*	<1.0*	24	1.1	4.1
Xylene (Total)	300	NE	NE	<10.0	<10.0	<10.0	<10.0	<1.0	<1.0	<1.0	<10.0	<1.0	<1.0
cis-1,2-Dichloroethene (DCE)	50	NE	NE	240	24	260	<10.0	66	7.3	<1.0	400	39	70
trans-1,2-Dichloroethene	40	NE	NE	18	<10.0	22	<10.0	8.7	<1.0	<1.0	16	1.1	4

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-N designates a non-duplicate sample

D2 designates the sample required dilution due to high concentration of target analyte

Table 2
Temporary Well Groundwater Analytical Results

Compounds	Sample Location			Former Super Radiator Coils						Former National Lead		
	Date			B14-W-(66-70)	B15-W-(40-44)	B15-W-(66-70)	B16-W-(41-42)	B16-W-(69-70)	B16-W-(69-70)-Y	B17-W-(28-32)	B17-W-(56-60)	B17-W-(64-68)
	Health Based Guidance Values											
HRL	HBV	RAA										
1,1-Dichloroethane	NE	NE	100	<10.0	<1.0	2.1	3.8	13	13	<1.0	<1.0	<1.0
1,1-Dichloroethene	200	NE	NE	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	NE	NE	100	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	1	NE	NE	<10.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.7	1.6
Benzene	2	NE	NE	<10.0*	<1.0	5.9	18	49	47	2	6.7	47
Dichlorodifluoromethane	700	NE	NE	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8
Ethylbenzene	50	NE	NE	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene (Cumene)	300	NE	NE	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5
Naphthalene	70	NE	NE	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	12
Tetrachloroethene (PCE)	5	4	NE	<10.0*	1	<1.0	9.6	1.4	1.4	<1.0	<1.0	<1.0
Trichloroethene (TCE)	5	0.4	NE	<10.0*	<1.0*	1.7	5.9	1.6	1.5	<1.0*	<1.0*	<1.0*
Vinyl chloride	0.2	NE	NE	37 D2	1.7	52	82	190 D2	190 D2	<1.0*	14	2.2
Xylene (Total)	300	NE	NE	<10.0	<1.0	<1.0	<1.0	3.6	3.4	<1.0	<1.0	3.8
cis-1,2-Dichloroethene (DCE)	50	NE	NE	1200 D2	65	730 D2	1800 D2	4800 D2	4700 D2	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	40	NE	NE	39 D2	1.7	25	37	100 D2	110 D2	<1.0	<1.0	<1.0

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-N designates a non-duplicate sample

D2 designates the sample required dilution due to high concentration of target analyte

Table 2
Temporary Well Groundwater Analytical Results

Compounds	Sample Location			Former National Lead						
				B17-W-(64-68)-Y	B18-W-(19-23)	B18-W-(40-44)	B18-W-(60-64)	B19-W-(11-15)	B19-W-(38-42)	B19-W-(61-65)
	Date	Duplicate	1/27/2015	1/27/2015	1/27/2015	1/29/2015	1/29/2015	1/29/2015	1/29/2015	1/29/2015
Health Based Guidance Values										
Compounds	HRL	HBV	RAA							
1,1-Dichloroethane	NE	NE	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	200	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	NE	NE	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2
1,2-Dichloroethane	1	NE	NE	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	2	NE	NE	47	2.8	3.1	67	<1.0*	2.1	33
Dichlorodifluoromethane	700	NE	NE	1.6	1.3	<1.0	1.2	<1.0	<1.0	1 L3, V4, Z-01f
Ethylbenzene	50	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4
Isopropylbenzene (Cumene)	300	NE	NE	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	1.7
Naphthalene	70	NE	NE	12	<1.0	<1.0	1.3	<1.0	<1.0	42
Tetrachloroethene (PCE)	5	4	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	5	0.4	NE	<1.0*	<1.0*	<1.0*	<1.0*	<1.0*	<1.0*	<1.0*
Vinyl chloride	0.2	NE	NE	2.2	<1.0*	<1.0*	<1.0*	<1.0*	3.2	1.6
Xylene (Total)	300	NE	NE	3.9	<1.0	<1.0	4.3	<1.0	<1.0	7.6
cis-1,2-Dichloroethene (DCE)	50	NE	NE	<1.0	<1.0	<1.0	<1.0	1.1	10	4.4
trans-1,2-Dichloroethene	40	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

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BOLD text indicates result is above reporting limit

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NE = not established

* = laboratory reporting limit is greater than established HRL value

concentrations are reported in micrograms per liter (μL)

-W designates water sample

-Y designates a duplicate sample

-N designates a non-duplicate sample

D2 designates the sample required dilution due to high

concentration of target analyte

Table 2
Temporary Well Groundwater Analytical Results
St. Louis Park Solvent Plume - Former EPS Printing - St. Louis Park, Minnesota
Concentrations are Reported in µg/L
Partial Listing - Only Compounds Detected are Listed

Sample Identification			SB-1-W (40-44)	SB-1-W (50-54)	Dup SB-1-W (50-54)	SB-2-W (40-44)	Dup SB-2-W (40-44)	SB-2-W (50-54)	SB-3-W (45-49)	SB-3-W (70-74)	SB-3-W (90-94)	SB-4-W (40-44)	SB-4-W (50-54)	SB-5-W (39-43)	SB-5-W (46-50)	Dup SB-5-W (46-50)	SB-6-W (40-44)	SB-6-W (50-54)	SB-7-W (41-45)	SB-7-W (66-70)	SB-7-W (91.5-95.5)	Trip Blank	FB-BK-1	FB-BK-2	
Date			12/12/13	12/12/13	12/12/13	12/13/13	12/13/13	12/13/13	12/13/13	12/13/13	12/11/13	12/11/13	12/11/13	12/11/13	12/11/13	12/12/13	12/12/13	12/12/13	12/12/13	12/12/13	12/11/13	12/12/13	12/13/13		
Compounds			HRL	HBV	RAA																				
1,1-Dichloroethene	200	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20.0	<1.0	<20.0	<20.0	1.4	5.1	<50.0	<1.0	<1.0	<1.0
Benzene	2	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.6	17.6	<1.0	<1.0	<1.0	<20.0	<1.0	<20.0	<20.0	2.8	6.0	<50.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)	5	NE	NE	9.1	30.4	29.8	<1.0	<1.0	4.8	8.1	<1.0	<1.0	5.6	761	2400	2360	1070	2030	696	17.7	<50.0	<1.0	<1.0	<1.0	
Trichloroethene (TCE)	5	0.4*	NE	0.96	11.8	11.8	2.1	2.1	5.8	4.1	1.0	<0.40	2.5	8.6	5.7	<20.0	8.1	<8.0	10.1	7.1	8.4	<20.0	<1.0	<0.40	<0.40
Vinyl chloride	0.2*	NE	NE	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	27.4	4.4	<0.40	<0.40	<0.40	<8.0	<0.40	<8.0	<8.0	9.4	38.6	121	<0.40	<0.40	<0.40
cis-1,2-Dichloroethene	50	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	171	27.7	<1.0	<1.0	4.7	<20.0	4.0	<20.0	<20.0	333	1540	5200	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	40	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.0	12.8	<1.0	<1.0	1.7	<20.0	2.2	<20.0	<20.0	16.5	53.8	193	<1.0	<1.0	<1.0	

Notes

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

= Concentration exceeds HRL/HBV/RAA

HRL = Health Risk Limit

HBV = Health Based Value

RAA = Risk Assessment Advice

NE = Not Established

* = Laboratory reporting limit is greater than established groundwater standard (HRL/HBV)

Table 2
Temporary Well Groundwater Analytical Results

Chemical	Super Radiator Coils Tube Fab Division						Super Radiator Coils						Sidal Realty						
	B1-W-N (38-42)	B1-W-N (52-56)	B1-W-Y (52-56)	B1-W-N (72-76)	B2-W-N (40-45)	B3-W-N (40-45)	B4-W-N (46-50)	B5-W-N (46-50)	B5-W-N (52-56)	B5-W-N (76-80)	B6-W-N (46-50)	B6-W-Y (46-50)	B7-W-N (36-40)	B7-W-N (71-75)	Trip Blank	HRL	HBV	RAA	
1,2,4-Trimethylbenzene	< 1.0	86	79	72	61	55	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 5.0	< 1.0	NE	NE	100	
1,3,5-Trimethylbenzene	< 1.0	13	12	16	13	13	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 5.0	< 1.0	100	--	--	
Benzene	< 1.0	82	81	99	63	61	< 5.0*	< 10.0*	< 10.0*	29	< 10.0*	< 10.0*	< 1.0	33	< 1.0	2	--	--	
cis-1,2-Dichloroethylene	< 1.0	< 10.0	< 10.0	< 10.0	< 5.0	< 5.0	< 5.0	< 10.0	69	1400	< 10.0	< 10.0	< 1.0	1100	< 1.0	50	--	--	
Ethylbenzene	< 1.0	110	110	130	76	72	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 5.0	< 1.0	50	--	--	
Isopropylbenzene	< 1.0	14	13	14	12	10	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 5.0	< 1.0	300	--	--	
Naphthalene	5.4	3500	3400	2000	2300	1900	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	7.6	< 1.0	70	--	--	
o-Xylene	< 1.0	71	68	75	47	45	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 5.0	< 1.0	300	--	--	
p&m-Xylene	< 1.0	43	40	75	42	39	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1.0	< 5.0	< 1.0	300	--	--	
Tetrachloroethylene	< 1.0	< 10.0*	< 10.0*	< 10.0*	< 5.0	< 5.0	110	650	21000	380	520	390	< 1.0	34	< 1.0	5	--	--	
trans-1,2-Dichloroethylene	< 1.0	< 10.0	< 10.0	< 10.0	< 5.0	< 5.0	< 5.0	< 10.0	< 10.0	60	< 10.0	< 10.0	< 1.0	100	< 1.0	40	--	--	
Trichloroethylene (TCE)	9.4	< 10.0*	< 10.0*	< 10.0*	< 5.0	< 5.0	< 5.0	< 10.0*	150	< 10.0*	< 10.0*	< 10.0*	< 1.0	2.5	160	< 1.0	5	0.4	--
Vinyl chloride	< 1.0*	< 10.0*	< 10.0*	< 10.0*	< 5.0*	< 5.0*	< 5.0*	< 10.0*	< 10.0*	240	< 10.0*	< 10.0*	< 1.0*	37	< 1.0*	0.2	--	--	--

Notes

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

= Concentration exceeds HRL/HBV/RAA

HRL = Health Risk Limit established by MPCA

HBV = Health Based Value established by MPCA

RAA = Risk Assessment Advice established by MPCA

All compounds described in micrograms per liter ($\mu\text{g/L}$)

NE = Not Established

* = Laboratory reporting limit is greater than established groundwater standard (HRL/HBV)

Only compounds detected are shown

Table 2
Temporary Well Groundwater Analytical Results
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
Concentrations are Reported in micrograms per liter
Partial Listing - Only Compounds Detected are Listed

Sample Identification		SB-1-W (12-16')	SB-1-W (46-50')	SB-1-W (54-58')	SB-1-W (71-75')	SB-2-W (12-16')	SB-2-W (46-50')	Dup-SB-2-W	SB-3-W (13-18')	SB-3-W (46-50')	SB-3-W (68-72')	SB-4-W (11-15')	SB-4-W (46-50')	SB-5-W (12-16')	SB-5-W (46-50')	SB-6-W (15 19)	Dup-SB-6-W (15-19')	SB-6-W (46-50')	Trip Blank	FB- 020314	FB- 020514
Date		2/3/14	2/3/14	2/3/14	2/3/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/4/14	2/4/14	2/3/14	2/3/14	2/3/14	2/3/14	2/3/14	1/29/14	2/3/14	2/5/14
Health Based Guidance Values																					
Compounds		HRL	HBV	RAA																	
Acetone		4,000	NE	NE	<20	<20	<20	NA	<20	<20	<20	37	NA	NA	<20	<20	<20	<20	<20	<20	<20

Notes

NA = not analyzed

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

= Concentration exceeds HRL/HBV/RAA

HRL = Health Risk Limit

HBV = Health Based Value

RAA = Risk Assessment Advice

NE = Not Established

* = Laboratory reporting limit is greater than established groundwater standard (HRL/HBV)

Table 3
Well Construction Details; St. Louis Park Edina, MN

Well Name	Unique #	Well Type	Aquifer Type	Easting	Northing	Ground/Reference Elevation (ft)	Well Depth (ft)	Screen/Open Hole Length (ft)	Bottom of Casing (ft)	Bottom Of Screen (ft)	Screen Top Elevation (ft)	Screen Bottom Elevation (ft)	Screen Slot Size (in)	Protective Casing Elevation (ft)
P109	216194	PZ	Drift	470406	4977204	895.11	44	2	42	44	853.11	851.11	-	895.11
P307	462926	PZ	Drift	470596	4976193	913.1	73.7	10	63.7	73.7	849.4	839.4	0.001	913.1
P308	462927	PZ	Drift	470633.865	4976014.682	923.29	68.7	10	58.7	68.7	864.59	854.59	0.001	923.29
P309	462928	PZ	Drift	471160.289	4976250.516	925.16	73	10	63	73	862.16	852.16	0.001	925.16
P310	462929	PZ	Drift	471308.147	4976253.025	921.48	69.5	10	59.5	69.5	861.98	851.98	0.001	921.48
W10	216038	MW	Drift	471022.09	4977518.492	892.03	29	4	25	29	867.03	863.03	12	892.03
W116	160030	MW	Drift	468219.448	4979495.085	909.54	67	4	63	67	846.54	842.54	-	909.54
W117	160031	MW	Drift	470613	4978367	917.75	72	4	68	72	849.75	845.75	15	917.75
W128	165583	MW	Drift	471206	4976017	922.89	67	4	63	67	859.89	855.89	12	922.89
W136	165591	MW	Drift	471447	4976079	919.17	53	4	49	53	870.17	866.17	15	919.17
W16	216044	MW	Drift	472819	4974463	891	64	-	-	-	-	-	-	-
W420	434045	MW	Drift	474274.505	4974558.308	895.88	67	22	40	67	855.84	828.84	70	895.84
W423	439813	MW	Drift	474695.847	4976749.676	917.51	45	10	35	45	882.51	872.51	10	917.51
W425	439814	MW	Drift	471006.778	4977206.979	923.81	45	10	35	45	888.76	878.76	10	923.76
W427	439811	MW	Drift	473314	4976147	919.4	47	10	35	45	884.4	874.4	10	919.4
W101	149711	MW	OPVL	473204	4975130	918.03	106	0	103	106	815.03	812.03	-	918.03
W120	165576	MW	OPVL	472031.284	4976143.628	919.81	105.7	0	100	109	819.9	810.9	-	919.9
W121	165577	MW	OPVL	472873	4975534	922.85	113.25	5	109	115	813.85	807.85	15	922.85
W123	165580	MW	OPVL	472485	4976067	909.36	103	0	93	103	816.36	806.36	-	909.36
W130	165585	MW	OPVL	472489	4976044	894.83	88	0	80	88	814.83	806.83	-	894.83
W131	165586	MW	OPVL	470967.913	4975412.223	919.27	107	0	97	107	822.27	812.27	-	919.27

Notes:

TOC=Top of Casing

-=No Data Available

PZ=Piezometer

IR=Irrigation

MW=Monitoring Well

OSTP=St. Peter

OPVL=Platteville

PCJ=Prairie du Chien-Jordan

SLP=St. Louis Park Well

H=Hopkins Well

ED=Edina Well

Table 3
Well Construction Details; St. Louis Park Edina, MN

Well Name	Unique #	Well Type	Aquifer Type	Easting	Northing	Ground/Reference Elevation (ft)	Well Depth (ft)	Screen/Open Hole Length (ft)	Bottom of Casing (ft)	Bottom Of Screen (ft)	Screen Top Elevation (ft)	Screen Bottom Elevation (ft)	Screen Slot Size (in)	Protective Casing Elevation (ft)
W132	165587	MW	OPVL	472373.522	4976119.542	904.95	93	0	86	93	818.95	811.95	-	904.95
W143	216051	MW	OPVL	472153.333	4976139.775	905.31	90	0	70	90	835.31	815.31	-	905.31
W18	216046	MW	OPVL	471890.362	4975109.247	893.33	78	7	71	78	822.27	815.27	-	893.27
W20	216048	MW	OPVL	471679.97	4976660.382	895.83	80	0	80	90	815.83	805.83	-	895.83
W27	216052	MW	OPVL	470426.197	4977198.416	910.47	112	0	81	112	829.47	798.47	-	910.47
W421	434044	MW	OPVL	473828.616	4975388.85	895.86	84	0	67	84	828.82	811.82	-	895.82
W424	439809	MW	OPVL	474398	4976763	917.57	110	0	100	110	817.57	807.57	-	917.57
W426	439812	MW	OPVL	471012.638	4976406.944	923.95	116	0	99.5	116	824.41	807.91	-	923.91
W428	439810	MW	OPVL	471478.758	4975870.207	919.4	109	0	98	109	821.4	810.4	-	919.4
W431	462935	MW	OPVL	472032.9566	4975812.446	922.77	114.1	8	106.15	114.15	816.62	808.62	0.006	921.98
W432	462930	MW	OPVL	472036.3671	4975812.132	919.02	109	0	96.5	109	822.52	810.02	-	919.02
W433	462933	MW	OPVL	472034.8168	4975814.927	925.84	112	0	96	112	829.84	813.84	8	925.84
W434	463012	MW	OPVL	471540	4975853	920.7	112	15	97	112	823.59	808.59	0.015	920.59
W437	498917	MW	OPVL	471638	4975946	913.18	104	0	94	104.167	819.18	809.013	-	913.18
W438	498919	MW	OPVL	470954.35	4976063.872	921.12	106.5	10	96.5	106.5	824.62	814.62	10	921.12
W122	165578	MW	OSTP	470755.628	4976350.34	918.58	239	0	217	239	701.58	679.58	-	918.58
W129	165584	MW	OSTP	471822	4975893	916.33	122	5	117	122	799.33	794.33	10	916.33
W133	165588	MW	OSTP	472031.693	4976146.598	921.06	122	6	116	122	805.06	799.06	12	921.06
W33	206449	MW	OSTP	477021	4980762	906.15	182	-	-	-	-	-	-	907.55
W33R	753534	MW	OSTP	478467	4980343	894/893.99	-	-	-	-	-	-	-	-

MW=Monitoring Well

Notes:

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Table 3
Well Construction Details; St. Louis Park Edina, MN

Well Name	Unique #	Well Type	Aquifer Type	Easting	Northing	Ground/Reference Elevation (ft)	Well Depth (ft)	Screen/Open Hole Length (ft)	Bottom of Casing (ft)	Bottom Of Screen (ft)	Screen Top Elevation (ft)	Screen Bottom Elevation (ft)	Screen Slot Size (in)	Protective Casing Elevation (ft)
W410	434042	MW	OSTP	470987.393	4976083.949	908.04	125	20	105	125	803.04	783.04	10	908.04
W411	432035	MW	OSTP	471591	4976423	896.25	111	27	83	110	813.25	786.25	0.01	896.25
W412	432034	MW	OSTP	472269	4976380	915.17	139.9	27	112	139	803.17	776.17	0.01	915.17
E13	203613	ED	PCJ	Not Public Data	Not Public Data	935/935.47	495	66	429	495	506	440	-	-
E15	207674	ED	PCJ	Not Public Data	Not Public Data	898/898.1	475	200	275	475	623	423	-	-
E2	208399	ED	PCJ	Not Public Data	Not Public Data	879/879.85	446	180	266	446	613	433	-	-
E7	206474	ED	PCJ	Not Public Data	Not Public Data	953/953.97	547	197	350	547	603	406	-	-
EDTW1	748656	MW	PCJ	470992	4976095	899/902.03	450	179	271	450	631.03	452.03	-	-
H6	112228	H	PCJ	Not Public Data	Not Public Data	961	545	191	354	545	571.45	380.45	-	925.45
SLP16	203187	SLP	PCJ	Not Public Data	Not Public Data	934.34	500	75	425	500	509.34	434.34	-	-
SLP4	200542	SLP	PCJ	Not Public Data	Not Public Data	904.87	490	186	304	490	600.87	414.87	-	-
SLP5	203196	SLP	PCJ	Not Public Data	Not Public Data	927.13	465	160	305	465	622.13	462.13	-	-
SLP6	206457	SLP	PCJ	Not Public Data	Not Public Data	914.87	480	177	303	480	611.87	434.87	-	-
W112	206443	MW	PCJ	469650.795	4976569.893	917.52	540	247	293	540	624.52	377.52	-	917.52
W118	216088	MW	PCJ	471160.91	4977294.004	905	487	-	-	-	-	-	-	-
W119	216009	IR	PCJ	471020.352	4975599.63	890	502	245	257	502	633	388	-	890
W23	216050	MW	PCJ	471003	4975601	897.22	909	536	373	909	524.22	-11.78	-	897.22
W29	206454	MW	PCJ	469495	4975270	896.2	335	78	257	335	639.2	561.2	-	896.2
W401	453805	MW	PCJ	470667	4976172	922.99	-	-	-	-	-	-	-	922.99
W403	439751	MW	PCJ	470543	4976204	868.21	385	150	235	385	633.21	483.21	-	868.21
Edina CC#3	161443	IR	PCJ	472693	4972663	918	492	202	290	-	-	-	-	-
Edina CC #2	236157	IR	PCJ	472927	4972621	908	490	203	287	-	-	-	-	-

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Table 3
Well Construction Details; St. Louis Park Edina, MN

Well Name	Casing Diameter (in)	Pack Material	Sandpack Top	Casing Material	Screen Material	Grout	Well Diameter (in)	Contractor	Drill Method	StartDate	Abandon Date	Notes
P109	1.25	-	-	-	-	-	1.25	-	-	25-Jan-80	-	Ground/Reference Elevation are TOC
P307	2	Red Filter Sand 45-55	61.7	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite	2	E.H. Renner & Sons	Mud Rotary	29-Nov-90	-	Ground/Reference Elevation are TOC
P308	2	Red Filter Sand 45-55	56.5	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite	2	E.H. Renner & Sons	Mud Rotary	06-Dec-90	-	Ground/Reference Elevation are TOC
P309	2	Red Filter Sand 45-55	61	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite	2	E.H. Renner & Sons	Mud Rotary	27-Nov-90	-	Ground/Reference Elevation are TOC
P310	2	Red Filter Sand 45-55	62	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite or Bentonite Slurry	2	E.H. Renner & Sons	Cable Tool	21-Nov-90	-	Ground/Reference Elevation are TOC
W10	4	-	-	-	-	-	4	E.H. Renner & Sons	-	03-Feb-89	-	-Ground/Reference Elevation are TOC -Screen assumed
W116	4	-	-	-	-	-	4	E. H. Renner	-	01-Apr-79	19-Nov-10	-Ground/Reference Elevation are TOC -Screen assumed
W117	4	-	-	-	-	-	4	E. H. Renner	-	01-Apr-79	-	Ground/Reference Elevation are TOC
W128	4	-	-	-	-	-	4	E.H. Renner & Sons	Cable Tool	14-Sep-79	-	Ground/Reference Elevation are TOC
W136	4	-	-	Johnson SS	-	-	4	E.H. Renner & Sons	-	28-Nov-79	-	Ground/Reference Elevation are TOC
W16	-	-	-	-	-	-	-	-	-	-	-	-
W420	4	-	-	Black Welded	Johnson Wirewound	Neat Cement and Bentonite	4	Bergerson-Caswell Inc.	Rotary	12-Oct-87	-	-
W423	4	-	-	Black Steel	304 Johnson Stains. Steel	Neat Cement	4	E. H. Renner & Sons	Cable Tool	25-Nov-87	-	Ground/Reference Elevation are TOC
W425	4	-	-	Black Steel	Johnson 304 Stainless	Neat Cement	4	E. H. Renner & Sons	Cable Tool	07-Dec-87	-	-Ground/Reference Elevation are TOC 11/05 -Variable casing
W427	4	-	-	Black Steel	Johnson 304 Stainless	Neat Cement	4	E. H. Renner & Sons	Cable Tool	20-Nov-87	-	-Ground/Reference Elevation are TOC -Variable casing diameter
W101	4	-	-	-	-	-	4	E. H. Renner	-	26-Dec-78	-	Ground/Reference Elevation are TOC
W120	4	-	-	-	-	-	4	E.H. Renner & Sons	-	12-Jul-79	-	Ground/Reference Elevation are TOC 11/05
W121	4	-	-	Johnson SS	-	-	4	E.H. Renner & Sons	Cable Tool	15-Jul-79	-	Ground/Reference Elevation are TOC
W123	4	-	-	-	-	-	4	E.H. Renner & Sons	-	07-Aug-79	01-Oct-10	Ground/Reference Elevation are TOC
W130	4	-	-	-	-	-	4	E.H. Renner & Sons	-	25-Sep-79	-	Ground/Reference Elevation are TOC
W131	4	-	-	-	-	-	4	E.H. Renner & Sons	-	05-Oct-79	-	Ground/Reference Elevation are TOC

Notes:

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Table 3
Well Construction Details; St. Louis Park Edina, MN

Well Name	Casing Diameter (in)	Pack Material	Sandpack Top	Casing Material	Screen Material	Grout	Well Diameter (in)	Contractor	Drill Method	StartDate	Abandon Date	Notes
W132	4	-	-	-	-	-	4	E.H. Renner & Sons	-	29-Oct-79	-	Ground/Reference Elevation are TOC
W143	4	-	-	-	-	-	4	-	-	03-Feb-89	-	-Ground/Reference Elevation are TOC -Open hole assumed
W18	4	-	-	-	-	-	4	E.H. Renner & Sons	-	07-Jul-78	-	GW contamination by coal tar derivatives
W20	4	-	-	-	-	-	4	E.H. Renner & Sons	-	27-Nov-78	-	Ground/Reference Elevation are TOC
W27	4	-	-	-	-	-	4	E.H. Renner & Sons	-	03-Jul-53	-	Ground/Reference Elevation are TOC
W421	6	-	-	Black Welded	no screen	Neat Cement and Bentonite	4	Bergerson-Caswell Inc.	Rotary	12-Oct-87	-	-Ground/Reference Elevation are TOC 11/05 -Open hole 67-84'
W424	4	-	-	Black Steel	no screen	Neat Cement	4	E. H. Renner & Sons	Cable Tool	20-Nov-87	-	-Ground/Reference Elevation are TOC -Open hole 100-110'
W426	4	-	-	Black Steel	no screen	Neat Cement	4	E. H. Renner & Sons	Cable Tool	07-Dec-87	-	-Ground/Reference Elevation are TOC 11/05 -open hole 99.5-116'
W428	4	-	-	Black Steel	no screen	Neat Cement	4	E. H. Renner & Sons	Cable Tool	17-Nov-87	-	-Ground/Reference Elevation are TOC -Open hole 98-109
W431	4	-	-	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite or Bentonite Slurry	4	E.H. Renner & Sons	Cable Tool	12-Nov-90	-	Ground/Reference Elevation are TOC
W432	4	-	-	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite or Bentonite Slurry	4	E.H. Renner & Sons	Cable Tool	01-Nov-90	19-Nov-10	Ground/Reference Elevation are TOC
W433	6	-	-	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite	6	E.H. Renner & Sons	Mud Rotary	05-Nov-90	-	-Ground/Reference Elevation are TOC -Open hole 96-112'
W434	6	Red Flint Sand	92	Schedule 40 Black Steel	Stainless Steel	Cement Bentonite	6	E.H. Renner & Sons	Mud Rotary	23-Apr-91	-	Ground/Reference Elevation are TOC 11/05
W437	4	-	-	-	Black Welded	Portland	4	Mark J. Traut Wells, Inc.	Rotary	30-Dec-91	-	-Ground/Reference Elevation are TOC -Open Hole 94-104.2'
W438	4	-	-	-	Black Welded	Portland	4	Mark J. Traut Wells, Inc.	Rotary	02-Jan-92	-	Ground/Reference Elevation are TOC
W122	4	-	-	-	-	-	4	E.H. Renner & Sons	-	06-Aug-79	-	Ground/Reference Elevation are TOC
W129	4	-	-	-	-	-	4	E.H. Renner & Sons	-	23-Oct-79	-	Ground/Reference Elevation are TOC
W133	4	-	-	Johnson SS	-	-	4	E.H. Renner & Sons	-	13-Nov-79	-	Ground/Reference Elevation are TOC
W33	4	-	-	-	-	-	4	Max Renner	-	01-Jun-53	01-Oct-04	Ground/Reference Elevation are TOC
W33R	-	-	-	-	-	-	4	-	-	-	-	-

Notes:

TOC=Top of Casing

-=No Data Available

PZ=Piezometer

IR=Irrigation

MW=Monitoring Well

OSTP=St. Peter

OPVL=Platteville

PCJ=Prairie du Chien-Jordan

SLP=St. Louis Park Well

H=Hopkins Well

ED=Edina Well

Table 3
Well Construction Details; St. Louis Park Edina, MN

Well Name	Casing Diameter (in)	Pack Material	Sandpack Top	Casing Material	Screen Material	Grout	Well Diameter (in)	Contractor	Drill Method	StartDate	Abandon Date	Notes
W410	4	-	-	Black Welded	Johnson Wire Wound	Neat Cement/Bentonite	4.008	Bergerson-Caswell Inc.	Rotary Cable tool	12-Oct-87	-	-Ground/Reference Elevation are TOC -Hole diam/casing varies w/ depth
W411	4	-	-	Black Welded	-	Neat Cement	4	Layne-Western Co. INC	Rotary	27-Oct-87	-	-Ground/Reference Elevation are TOC -Various casing/hole diameters
W412	4	-	-	Black Welded	Johnson	Neat Cement	4	Layne-Western Co INC	Rotary	20-Nov-87	-	Ground/Reference Elevation are TOC
E13	16	-	-	-	-	-	16	Keys Well Drilling Co.	-	01-May-64	-	-Assumed Well diameter, actual may be smaller -CWI Remarks: "CASING:024 TO 0109;016 TO 0429."
E15	24	-	-	-	-	-	24	Bergerson-Caswell	-	15-Jun-02	-	Assumed Well diameter, actual may be smaller
E2	12	-	-	-	-	-	12	Keys Well Drilling Co.	-	01-Apr-07	-	-CWI Casing 20"-53',16"-260', 12"-266'
E7	16	-	-	-	-	-	16	Keys Well Co.	-	03-May-55	-	-Assumed Well diameter, actual may be smaller -1/25/11 Out of service until VOC Treatment -148' pipe 24", 350' pipe 16"
EDTW1	6	-	-	steel	-	neat cement	6	Mark J Traut Wells, Inc.	-	07-Dec-06	-	Assumed Well diameter, actual may be smaller
H6	30	-	-	welded	-	neat cement	24	Bergerson-Caswell Inc.	Cable Tool	30-Sep-77	-	-Assumed Well diameter, actual may be smaller -30" to 132', 24" to 354'
SLP16	24	-	-	-	-	yes	24	Tri-State Drilling Co.	-	31-Jul-73	-	-Open Hole assumed -24" liner pipe 425 ft, 30" outer casing 310 ft
SLP4	18	-	-	-	-	Neat cement	18	Layne-Western Co.	-	01-Jan-46	-	-Assumed Well diameter, actual may be smaller -Open Hole assumed, GAC
SLP5	20	-	-	-	-	Neat cement	20	Layne Minnesota Co.	-	01-Jan-47	-	-Assumed Well diameter, actual may be smaller -Open Hole assumed -24" pipe to 115' then 20" to 305'
SLP6	20	-	-	-	-	Neat cement	20	Layne-Western Co.	-	01-Jan-48	-	-Open Hole assumed -CWI remarks: "CASING:024 TO 0108;020 TO 0303."
W112	16	-	-	-	-	-	16	McCarthy	-	28-May-32	Abandoned, date not provided	-Assumed Well diameter, actual may be smaller -Open Hole assumed, have casing to 293 -Formerly AKA SLP01
W118	-	-	-	-	-	-	-	-	-	-	-	-
W119	16	-	-	-	-	-	16	E. H. Renner	-	01-Jun-35	-	-Assumed Well diameter, actual may be smaller -Open Hole assumed, have casing to 257
W23	10	-	-	-	-	-	10	McCarthy	-	-	-	Ground/Reference Elevation are TOC
W29	4	-	-	-	-	-	4	E.H. Renner & Sons	-	12-Apr-63	-	-Ground/Reference Elevation are TOC -Private well
W401	4	-	-	-	-	-	4	-	-	-	-	Ground/Reference Elevation are TOC
W403	4	-	-	steel	-	-	4	-	Rotary	01-Mar-88	-	Ground/Reference Elevation are TOC
Edina CC#3	-	-	-	-	-	-	12	-	-	-	-	-
Edina CC #2	-	-	-	-	-	-	12	-	-	-	-	-

Notes:

TOC=Top of Casing

-No Data Available

PZ=Piezometer

IR=Irrigation

MW=Monitoring Well

OSTP=St. Peter

OPVL=Platteville

PCJ=Prairie du Chien-Jordan

SLP=St. Louis Park Well

H=Hopkins Well

ED=Edina Well

Table 4
 Monitoring Well Groundwater Analytical Results - Drift Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:		P8	P9	P58	P109	P109	P109	P109	P112	P112	P112	P112	P112	P112	P304	P305	P307	P307-DUP	P307			
		CWI Name:																						
		MN Unique Well No.:		00216117	00216118	00227944	00216194	00216194	00216194	00216194	00216166	00216166	00216166	00216166	00216166	00216166	00439765	00439765	00462926	00462926	00462926			
		Aquifer:		Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift			
		STS/AECOM Sample ID:		P 8	P 9	P 58																		
		MDH Sample No.:		200514577	200514581	200514580		200611310	200710977		13E0103-03	200508514	200514578	200514579	200611305	200710976		200911609	13E0169-06	200514574	200514575	200611306		
		Sample Date:		6/7/2005	6/8/2005	6/7/2005		4/26/2005	5/8/2006	5/9/2007	4/28/2008	5/1/2013	4/25/2005	6/7/2005	5/8/2006	5/9/2007	4/28/2008	5/5/2009	5/2/2013	6/6/2005	4/25/2005	4/25/2005		
		Notes:		Low Flow Sample	Low Flow Sample	Low Flow Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	Collected by AECOM	PAH Split Sample	Low Flow Sample	PAH Split Sample, Duplicate	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	Low Flow Sample	PAH Split Sample, Duplicate	PAH Split Sample	PAH Split Sample		
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards								Pace Sample No.: P112-042908						Pace Sample No.: P112-042808								
Benzene	ug/L	2 HRL	5 MCL	0.5	<0.2	<0.2	13.0	<1.0	0.7	0.623 J	<1.0	<0.2	0.3	0.4	<1.0	0.3	<1.00	<0.2	<1.0	<0.2	<0.2	<0.2		
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0		
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0		
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0		
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	0.1	<1.0	<0.1	<0.1	<5.00	<1.0	<0.1	<0.1	<1.0	<0.1	<1.00	<0.1	<5.00	<1.0	<0.1	<0.1	<1.0		
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	0.710 J	<1.0	<1.0	<1.0	<1.0		
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<0.2	0.7	<1.0	0.20 J	<1.00	<1.0	<0.2	<0.2	<1.0	<0.2	<1.00	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0		
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<0.2	0.4	<1.0	<0.2	<1.00	<1.0	<0.2	<0.2	0.3	0.3	<1.00	0.4	<1.00	<0.2	<0.2	<0.2	<1.0		
1,1-Dichloroethene	ug/L	200 HBV	7 MCL	<0.5	<0.5	<0.5	14.0	<1.0	0.21 J	<1.00	<1.0	<0.5	0.6	0.9	0.8 J	<1.00	0.7	<1.00	<0.5	<0.2	<0.2	<0.2	0.97 J	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	98.0	<0.2	<0.2	3800.0	0.7 J	0.8	<1.00	<1.0	0.7	2.6	3.5	3.3	2.7	1.94	2.5	<1.00	<0.2	<0.2	0.6	<0.2	340 RC
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	23	<0.1	<0.1	61	<1.0	0.088 J	<1.00 J	<1.0	<0.1	<0.1	<1.0	<0.1	<1.00 J	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	18	
Dichlorodifluoromethane	ug/L	700 HBV	--	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<0.1	<0.1	<1.0		
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0		
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	<0.5	<0.5	0.7	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<2.8		
Isopropylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<1.0			
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<1.0			
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<2.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<2.0	<0.5	<0.5	<0.5	<1.0		
Methyl ethyl ketone	ug/L	4000 HRL	--	<10	<10	<10	<10	<10	<10	<10	<5.00	<10	<10	<10	<10	<10	<5.00	<10	<10	<10	<10	<10		
Naphthalene	ug/L	300 HRL	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.00	<1.0	<1.0	<1.0	<1.0	<1.00	<5.00	<1.0	<1.0	1.0	<1.0	<1.0	8.5	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0		
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<1.0	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0		
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<0.2	1000.0	<1.0	<0.2	<1.00	<1.0	0.4	<0.2	<0.2	<1.0	0.2	<1.00	<0.2	<0.2	<0.2	<0.2	0.3	130 RC	
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	10	<10	<10	<10	<5.00	<1.0</td												

Table 4
Monitoring Well Groundwater Analytical Results - Drift Wells
Edina Groundwater VOC Contamination Study – Continuation in 2013
AECOM Project 60283395

		Well Name:	???															???								
			P307	P307-DUP	P307	P307	P307	P308	P308	P308	P308	P308	P309	P309	P309	P309	P309	P310	P310	P310	P310	P310				
		CWI Name:																								
		MN Unique Well No.: Aquifer:	00462926	00462926	00462926	00462926	00462926	00462927	00462927	00462927	00462927	00462927	00462927	00462928	00462928	00462928	00462928	00462928	00462929	00462929	00462929	00462929	00462929			
		Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift			
		STS/AECOM Sample ID:																								
		MDH Sample No.: Sample Date:	200710972	200710998		200911616	13E0012-12		200611313	200710978		200911615	13E0012-07		200610311	200710962		200911612	13E0012-06		200611308	200710980				
		5/9/2007	5/9/2007	4/28/2008	5/5/2009	4/30/2013	4/25/2005	5/8/2006	5/9/2007	4/28/2008	5/5/2009	4/30/2013	4/25/2005	5/2/2006	5/8/2007	4/29/2008	5/5/2009	4/30/2013	4/25/2005	5/8/2006	5/10/2007	4/28/2008				
		Notes:	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Sampled by AECOM	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA						
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards			Pace Sample No.: P307-042808						Pace Sample No.: P308-042808						Pace Sample No.: P309-042908							Pace Sample No.: P310-042808		
Benzene	ug/L	2	HRL	5	MCL	34.0	30.0	22.6	28.0	31 D	13.0	<1.0	0.5	<1.00	0.16 J	<1.0	1.3	2.6	5.5	<5.00	3.0	37 D	0.6	3.9	1.8	0.510 J
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<10	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<5.00	<5.00	<10	<0.5	<1.0	<0.5	<1.00	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<10	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<5.00	<5.00	<10	<0.5	<1.0	<0.5	<1.00	
Chloroethane	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<10	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<5.00	<5.00	<10	<0.5	<1.0	<0.5	<1.00	
Chloroform	ug/L	30	HRL	--	<0.1	<0.1	<5.00	<0.1	<10	<0.1	<1.0	<0.1	<5.00	<0.1	<1.0	<0.1	<1.0	<0.1	<25.00	<1.00	<10	<0.1	<1.0	<0.1	0.078 J	
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.00	<1.0	<10	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.00	<10	<1.0	<1.0	<1.0	<1.0	<1.00	
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<1.00	<0.2	<10	0.3	<1.0	<0.2	<1.00	<0.2	<1.0	<0.2	<1.0	<0.2	<2.00	<10	0.2	<1.0	0.2	<1.0	<1.00		
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<0.2	<0.2	<1.00	<0.2	<10	0.5	<1.0	<0.2	<1.00	<0.2	<1.0	<0.2	<5.00	<2.00	<10	<0.2	<1.0	<0.2	<1.00		
1,1-Dichloroethene	ug/L	200	HBV	7	MCL	1.3	5.0	<1.00	8.7	<10	12	<1.0	<0.5	<1.00	<0.5	<1.0	<0.2	<5.00	<2.00	<10	<0.2	3.4	0.9	0.741 J		
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	1600 RC	1400 RC	163.0	560 RC	2600 D	2100.0	3.5	29	7.68	17	<1.0	<0.2	23	130 RC	207.0	220 QB	2900 D	0.5	810 RC	770 RC	358.0
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	330 RC	330 RC	171 J	380 RC	240 D	55	<1.0	6.0	1.51 J	0.5	<1.0	1.2	6.6	6.1	5.22 J	<1.00	45 D	0.1	15	11	4.68 J
Dichlorodifluoromethane	ug/L	700	HBV	--	--	<1.0	<1.0	<1.00	<1.0	<10	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.00	<10	<0.1	<1.0	<1.0	<1.00		
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<10	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<5.00	<10	<0.5	<1.0	<0.5	<1.00		
Ethylbenzene	ug/L	50	HBV	700	MCL	12	11	6.69	10	<10	1.8	<1.0	1.0	<0.5	<1.00	0.3 J	0.40 J	<1.0	<5.00	<10	<0.5	<1.0	<0.5	<1.00		
Isopropylbenzene	ug/L	--	--	2.4	2.2	<1.00	1.8	<10	1	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<5.00	<10	<0.5	<1.0	<0.5	<1.00		
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<10	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<5.00	<10	<0.5	<1.0	<0.5	<1.00			
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.5	<1.00	<0.5	<20	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	<0.5	<5.00	<20	<0.5	<1.0	<0.5	<1.00			
Methyl ethyl ketone	ug/L	4000	HRL	--	--	<10	<10	<1.00	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<25.00	<100.00	<100	<10	<10	<1.00		
Naphthalene	ug/L	300	HRL	--	--	7.5	4.3	1.73 J	<1.0	<10	1.3	14	1.53 J	2.7	<1.0	32	18 RC	4.03 J	<10.00	<10	1.4	4.5 QR	1.42 J			
n-Propylbenzene	ug/L	--	--	0.6	0.5	<1.00	0.4 J	<10	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<5.00	<10	<0.5	<1.0	<0.5	<1.00			
Styrene	ug/L	--	100	MCL																						

Table 4
Monitoring Well Groundwater Analytical Results - Drift Wells
Edina Groundwater VOC Contamination Study – Continuation in 2013
AECOM Project 60283395

		Well Name:	???															???														
			P310	P310	P310-DUP	P312	P312	P312	P312	P312	W2	W9	W10	W15	W16	W17	W22	W117	W117	W117	W117	W117	W117	W117	W117	W117	W117	W117	W117	W117		
CWI Name:																																
MN Unique Well No.: Aquifer:	00462929	00462929	00462929	00462932	00462932	00462932	00462932	00462932	00462932	00216031	00216037	00216038	,00216043	00216044	00216044	00200993	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031	00160031		
Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift		
STS/AECOM Sample ID:																																
MDH Sample No.: Sample Date:	200911611	13E0012-01	13E0012-03		200610313	200710986		200911623	13E0012-09	200514049	200514042	200514045	200514030	200514043	200514047	200514041	200611311	200710973														200911604
5/5/2009	4/30/2013	4/30/2013	4/26/2005	5/2/2006	5/7/2007	4/29/2008	5/7/2009	4/30/2013	6/3/2005	6/3/2005	6/2/2005	6/3/2005	6/2/2005	6/3/2005	6/3/2005	4/26/2005	5/8/2006	5/9/2007	4/28/2008	5/5/2009												
Notes:	PAH Split Sample	Collected by AECOM	Collected by AECOM	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	Discrete Sample	Discrete Sample, Duplicate	Discrete Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample															
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards							Pace Sample No.: P312-042908																				Pace Sample No.: W117-042808			
Benzene	ug/L	2 HRL	5 MCL	<2.00	< 10	< 10	<0.2	7.8	10	7.05	15	6.4	<0.2	14.0	<0.2	<0.2	<0.2	0.8	8.2	1.2	1.6	0.623 J	1.2									
n-Butylbenzene	ug/L	--	--	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
Chlorodibromoethane	ug/L	--	--	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
Chloroethane	ug/L	--	--	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00	<1.0	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
Chloroform	ug/L	30 HRL	--	<1.00	< 10	< 10	0.2	<0.1	<0.1	<25.00	<1.00	<1.0	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
Chloromethane	ug/L	--	--	<10.00	< 10	< 10	1.0	<1.0	<1.0	<5.00	<10.00	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
1,1-Dichloroethane	ug/L	--	--	<2.00	< 10	< 10	<0.2	<0.2	0.3	<5.00	<2.00	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.13 J	<1.00			
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<2.00	< 10	< 10	<0.2	<0.2	0.3	<5.00	<2.00	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2				
1,1-Dichloroethene	ug/L	200 HBV	7 MCL	<2.00	< 10	< 10	<0.2	5.1	6.2	3.72 J	4 J	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	850 QB	840 D	860 D	1.9	1500 RC	46	810.0	690 QB	5.9	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	330.0	1.5	21	<1.00	0.3						
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	10	< 10	< 10	60	60 RC	32.0 J	59	15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	13	1.7	5.9	1.51 J	3.0						
Dichlorodifluoromethane	ug/L	700 HBV	--	<10.00	< 10	< 10	<0.1	<0.1	<0.1	<5.00	<10.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
Dichlorofluoromethane	ug/L	--	--	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
Ethylbenzene	ug/L	50 HBV	700 MCL	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00	<1.0	<0.5	16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<1.0	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5			
Isopropylbenzene	ug/L	--	--	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00	<1.0	<0.5	2.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
p-Isopropyltoluene	ug/L	--	--	<5.00	< 10	< 10	<0.5	<0.5	<0.5	<5.00	<5.00																					

Table 4
Monitoring Well Groundwater Analytical Results- Drift Wells
Edina Groundwater VOC Contamination Study – Continuation in 2013
AECOM Project 60283395

		Well Name:	W117-DUP	W117	W128	W128	W128	W136	W136-DUP	W136	W136	W136	W136	W420	W420	W420	W420	W420	W420-DUP (DUP-5)	W422	???	???	???			
		CWI Name:																								
		MN Unique Well No.:	00160031	00160031	00165583	00165583	00165583	00165591	00165591	00165591	00165591	00165591	00165591	00165591	00434405	00434045	00434045	00434045	00434045	00434045	00434045	00434045	00434043			
		Aquifer:	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift	Drift		
		STS/AECOM Sample ID:													SLP 420											
		MDH Sample No.:	200911605	13D1907-06	200710966		200911619		200610312	200710988	200911622	13D1907-04	200432995		200610295	200710990		200904988	13E0169-05	13E0169-03						
		Sample Date:	5/5/2009	4/29/2013	5/8/2007	4/29/2008	5/7/2009	4/26/2005	4/26/2005	5/2/2006	5/7/2007	4/29/2008	5/7/2009	4/29/2013	12/9/2004	5/2/2005	5/2/2006	5/7/2007	4/28/2008	3/12/2009	5/2/2013	5/2/2013	4/26/2005			
		Notes:	PAH Split Sample	Collected by AECOM	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	Spigot Water Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample, questionable sample										
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards			Pace Sample No.: W128-042908						Pace Sample No.: W136-042908										Pace Sample No.: W420-042808					
Benzene	ug/L	2	HRL	5	MCL	1.1	0.99	0.12 J	<1.00	<0.2	16.0	18.0	<0.2	<0.2	<1.00	<0.2	<0.20	84.0	100.0	80.0	<0.2	63.4	1.3	67 D	65 D	55.0
n-Butylbenzene	ug/L	--	--	<0.5	<0.50	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20.0	<1.0	<1.0	1.9	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.50	<0.5	<1.00	<0.5	0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20.0	<1.0	<1.0	<0.5	
Chloroethane	ug/L	--	--	<0.5	<0.50	<0.5	<1.00	<0.5	2.3	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	0.5 J	<0.5	<0.5	<20.0	<0.5	<1.0	<1.0	<0.5	
Chloroform	ug/L	30	HRL	--	<0.1	<0.10	<0.1	<5.00	0.2	<0.1	<0.1	<0.1	<5.00	<0.1	<0.1	<0.10	<0.1	0.1	<0.1	<0.1	<100.0	<0.1	<1.0	<1.0	<0.1	
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	--	--	0.1 J	<0.20	<0.2	<1.00	<0.2	<0.2	<0.2	<0.2	<0.2	<1.00	<0.2	<0.20	<0.2	0.5	0.6	<0.2	0.5	0.6	<20.0	1.2	<1.0	<0.2	
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	0.2	<0.20	<0.2	<1.00	0.2	0.4	<0.2	<0.2	<1.00	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<20.0	<0.2	<1.0	<1.0	<0.2
1,1-Dichloroethene	ug/L	200	HBV	7	MCL	<0.5	<0.50	<0.5	<1.00	0.4 J	2.3	<0.2	<0.5	<1.00	<0.5	<0.50	<0.5	0.4	0.3 J	0.8	<20.0	0.7	<1.0	<1.0	<0.2	
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	0.3	14	9.43	16	630.0	590.0	<0.2	1.8	1.12	0.4	<0.20	21	28	45	150 RC	120	52	9.4	9.5	4.7	
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	3.1	4.5	<0.1	<1.00 J	0.8	74	76	<0.1	<0.1	<1.00 U	<0.1	<0.10	18	23	23	39	19.1 J	2.5	<1.0	<1.0	1.1
Dichlorodifluoromethane	ug/L	700	HBV	--	--	<1.0	<1.0	<1.0	<1.00	0.6 J	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.1 QR	<20.0	2.0	2.1	4.5
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.50	0.45 J	0.945 J	2.2	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20.0	<1.0	<1.0	<0.5	
Ethylbenzene	ug/L	50	HBV	700	MCL	<0.5	<0.50	<0.5	<1.00	<0.5	24	24	<0.5	<0.5	<1.00	<0.5	<0.50	98	51	90 RC	<0.5	66.4	<0.5	<1.0	<1.0	110
Isopropylbenzene	ug/L	--	--	<0.5	<0.50	<0.5	<1.00	<0.5	2.6	2.8	<0.5	<0.5	<1.00	<0.5	<0.50	9.9	9.6	8.8	<0.5	<20.0	<0.5	8.5	8.3	12		
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.50	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.50	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	1.8	1.2		
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.50	<0.5	<1.00	<0.5	<0.5	<0.5	<1.00	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20.0	<0.5	<1.0	<0.5	
Methyl ethyl ketone	ug/L	4000	HRL	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100.0	<10	<10	<10	
Naphthalene	ug/L	300	HRL	--	--	<1.0	<1.0	<1.0	<5.00	<1.0	7.5	3.5	1.4	15	<5.00	<1.0	<1.0	2400.0	3100.0	3200.0 </td						

Table 4
Monitoring Well Groundwater Analytical Results - Drift Wells
Edina Groundwater VOC Contamination Study – Continuation in 2013
AECOM Project 60283395

		Well Name:	W422	W422	W422	W422	W422	W423	W425	W427	W427	W427	W427-DUP	W427	W427	W439	W439	W439	W439	W439						
	CWI Name:																									
	MN Unique Well No.: Aquifer:	00434043	00434043	00434043	00434043	00434043	00439813	00439813	00439811	00439811	00439811	00439811	00439811	00439811	00439811	00538134	00538134	00538134	00538134	00538134						
	STS/AECOM Sample ID:																									
	MDH Sample No.: Sample Date:	200610315	200710985		200911617	13E0169-07	200514029	200514036		200611309	200710979			200911610	13E0103-10	200432994		200611304	200710975		200911608	13E0169-04				
	Notes:																									
	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	Discrete Sample	Discrete Sample, Duplicate	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Spigot Water Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	PAH Split Sample	Collected by AECOM					
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards		Pace Sample No.: W422-042908										Pace Sample No.: W427-042808	Pace Sample No.: W427D-042808						Pace Sample No.: W439-042808					
Benzene	ug/L	2	HRL	5	MCL	0.2 J	0.15 J	3.34	<0.2	1.1	<0.2	<0.2	0.4	<1.0	<0.2	<1.00	<0.2	<1.0	71.0	<0.2	70.0	54 RC	74.4	6.1	55 D	
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	<0.5	<25		
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	<0.5	<25		
Chloroethane	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	<0.5	<25		
Chloroform	ug/L	30	HRL	--	<0.1	<0.1	<5.00	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<1.0	<0.1	<5.00	<0.1	<1.0	<0.1	<1.0	<0.1	<1.0	<0.1	<25		
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25		
1,1-Dichloroethane	ug/L	--	--	0.4	0.3	<1.00	0.4	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<1.00	<0.2	<1.0	<0.2	<1.0	<0.2	<1.0	<0.2	<25		
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	0.3	0.3	<1.00	<0.2	<1.0	<0.2	<0.2	0.4	<1.0	<0.2	<1.00	<0.2	<1.0	<0.2	<1.0	<0.2	<1.0	<0.2	<25		
1,1-Dichloroethene	ug/L	200	HBV	7	MCL	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	0.9	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	<0.5	<25		
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	0.7	1.1	3.69	14	30	<0.2	<0.2	4.1	0.5 J	1.3	1.45	1.29	0.4	<1.0	2.3	0.6	1.8	2.1	<10.0	0.4 QB	<25
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	0.5	1.2	1.22 J	4.0	3.1	<0.1	<0.1	<0.1	0.1	<1.00 J	<1.00 J	<0.1	<1.0	1.0	0.3	1.3	0.7	<10.0 J	0.1	<25	
Dichlorodifluoromethane	ug/L	700	HBV	--	--	1.6	<1.0	<1.00	3.0	2.3	<1.0	<1.0	<1.0	<1.0	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25		
Dichlorofluoromethane	ug/L	--	--	3.0	2.2	<1.00	3.2	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	3	<1.0	<0.5	<1.00	<0.5	<25		
Ethylbenzene	ug/L	50	HBV	700	MCL	<0.5	<0.5	3.75	<0.5	<1.0	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	110	<0.5	93	78 RC	142	9.5	110 D	
Isopropylbenzene	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	11	<0.5	9.5	8.3	10.4	0.9	<25	
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	0.6	<10.0	<0.5	<1.0	<0.5	<25		
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.5	<1.00	<0.5	<2.0	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<2.0	<0.5	<1.0	<0.5	<1.0	<0.5	<50		
Methyl ethyl ketone	ug/L	4000	HRL	--	--	<10	<10	<5.00	<10	<10	<10	<10	<10	<10	<5.00	<5.00	<10	<10	<10	<10	<10	<10	<10	<250		
Naphthalene	ug/L	300	HRL	--	--	0.6 J	0.629 J	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	14	<1.0	<5.00	<1.0	<1.0	1000.0	<1.0	780.0	800 RC	1010 J	510 RC	1400 D	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<1.00	<0.5	<1.0	9.8	<0.5	7.1	4.3	<10.0	0.6	<25	
Styrene	ug/L	--	--	100	MCL	0.5	0.5	<1.00	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.00	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	<0.5	<25		
Tetrachloroethene (PCE)	ug/L	5	HRL	5	MCL	0.2 J	0.13 J	<1.00	0.3	<1.0	<0.2	<0.2	5	2.0	3.3</											

Table 4
 Monitoring Well Groundwater Analytical Results- Drift Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

	Well Name:	R. REED II	Nine Mile Creek			
	CWI Name:	JAMES HILDRETH	--			
	MN Unique Well No.:	00218194	--			
	Aquifer:	Drift				
	STS/AECOM Sample ID:	6223 Westridge Blvd	Nine Mile Creek near Thermotech 1202			
	MDH Sample No.:	200532479	200603046			
	Sample Date:	12/1/2005	2/10/2006			
	Notes:	Spigot Water Sample	Grab Water Sample			
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards				
Benzene	ug/L	2 HRL	5 MCL	<0.2	<0.2	
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	
Chloroethane	ug/L	--	--	<0.5	<0.5	
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	
Chloromethane	ug/L	--	--	<1.0	<1.0	
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	
1,1-Dichloroethene	ug/L	200 HBV	7 MCL	<0.5	<0.5	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	<0.2	0.5	
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	<0.1	<0.1	
Dichlorodifluoromethane	ug/L	700 HBV	--	<1.0	<1.0	
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	<0.5	
Isopropylbenzene	ug/L	--	--	<0.5	<0.5	
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	
Methyl ethyl ketone	ug/L	4000 HRL	--	<10	<10	
Naphthalene	ug/L	300 HRL	--	<1.0	<1.0	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	
Styrene	ug/L	--	100 MCL	<0.5	<0.5	
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	3.4	
Tetrahydrofuran	ug/L	--	--	<10	<10	
Toluene	ug/L	200 HBV	1000 MCL	<0.2	<0.2	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	
1,1,2-Trichloroethane	ug/L	3 HRL	5 MCL	<0.2	<0.2	
Trichloroethene (TCE) **	ug/L	0.4 HRL	2 MCL	<0.1	0.9	
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	
Vinyl Chloride **	ug/L	0.2 HRL	2 MCL	<0.2	<0.2	
o-Xylene	ug/L	300 HRL	--	<0.2	<0.2	
p&m-Xylene	ug/L	300 HRL	--	<0.3	<0.3	
Xylene (total)	ug/L	300 HRL	10000 MCL	<0.5	<0.5	

Notes:

0.5	- concentration exceeds MN drinking water criteria
18	- concentration exceeds Federal drinking water criteria
135	- increasing trend in concentrations
37	- decreasing trend in concentrations

?? - Results inconsistent with other results (outlier)

D - Report Limit changed due to sample dilution

J - The analyte positively identified, below the report level, estimated

QB - Analyte found in the associated method blank and in the sample

QR - Result estimated

RC - Report level was changed due to sample dilution

HBV - Health Based Values derived by Minnesota Department of Health

HRL - Health Risk Level derived and promulgated in rule by MDH

MCL - Maximum Contaminant Level (USEPA)

** = Compound laboratory method reporting limit sometimes greater than HRL concentration

Table 4
 Monitoring Well Groundwater Analytical Results- Platteville Formation
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name: CWI Name:	CITY OF ST LOUIS PARK	W18	W18	W20	W20	W20	W20	W20	W27	W27	W27	W27	P62	W101	W101			
		MN Unique Well No.: Aquifer:	00206440	00216046	00216046	00216048	00216048	00216048	00216048	00216048	00216052	00216052	00216052	00216052	00227948	00149711	00149711			
		STS/AECOM Sample ID:	Platt.-St. Peter	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville			
		MDH Sample No.: Sample Date:	W18												P62					
		Notes:	200423868	200514048	13E0103-09		200610318	200710989		200912069	13E0103-04		200710983		200912055	200514034	200610319			
		City of St. Louis Park Data	Discrete Sample	Sampled by AECOM	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA		Collected by AECOM	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Discrete Sample	PAH Split Sample	PAH Split Sample				
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards						Pace Sample No.: W20-051208					Pace Sample No.: W27-051208						
Benzene	ug/L	2 HRL	5 MCL	<0.2	6.1	31	0.9	0.5	0.4	<1.0	0.9	5.2	39.0	36.0	23.0	62.5	23.0	0.3	13.0	8.0
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroethane	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<1.0	0.1	<0.1	<0.1	<5.0	<0.1	<1.0	0.1	<0.1	<5.0	<0.1	<0.1	0.1	<0.1	
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	0.3	0.2	
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	0.6	
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.5	<0.5	2.7	<0.2	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.5	<0.2	<0.2	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	<0.2	7.2	950 D	1	0.9	0.4	1.37	0.8	16	<0.2	0.1 J	<0.2	<1.0	<0.1	0.8	0.8	18
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	<0.1	11	120 D	<0.1	<0.1	<1.0	0.2	1.2	<0.1	<0.1	<0.1	<1.0	<0.2	0.2	1.8	8.4	
Dichlorodifluoromethane	ug/L	700 HBV	--	<0.5	<1.0	<1.0	<0.1	<0.1	<1.0	<0.1	<1.0	<0.1	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.2	<0.5	7.4	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	15	11	9.6	6.51	5.9	
Isopropylbenzene	ug/L	300 HRL*	--	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<1.0	2.2	1.8	2.0	1.92	1.4	
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	
Naphthalene	ug/L	300 HRL	--	<0.5	<1.0	9.0	2.5	1.5	<1.0	<5.0	<1.0	<1.0	22	5.3	5.9	1.03 J	8.4	<1.0	29	0.6 J
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	0.5	0.3 J	0.47 J	<1.0	0.4 J	<0.5	<0.5	
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<1.0	5.1	0.9	<0.2	0.517 J	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	
Tetrahydrofuran	ug/L	--	--	<10	<10	<1.0	<10	<10	<10	<5.0	<10	<10	<10	<10	<5.0	<10	<10	<10	<10	
Toluene	ug/L	200 HBV	1000 MCL	<0.2	0.5	1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	0.30 J	<1.0	0.3 J	<0.5	<0.5	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	
Trichloroethene (TCE)**	ug/L	0.4 HRL	5 MCL	<0.1	0.6	<1.0	2.9	1.3	0.3	3.24	0.2	<1.0	<0.1	0.1	<0.1	<1.0	<0.1	<0.1	<0.1	0.2
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	0.6	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	0.5	<0.5	<1.0	0.3 J	<0.5	<0.5	<0.5	
Vinyl Chloride**	ug/L	0.2 HRL	2 MCL	<0.5	3.8	1100 D	0.4	0.1 J	0.2	<1.0	2.1	96 D	<0.2	<0.2	<1.0	<0.2	0.2	0.6	2.0	
o-Xylene	ug/L	300 HRL	--	<0.2	<0.2	9.5	<0.2	<0.2	<0.2	<1.0	<0.2	<1.0	3	1.4	1.1	<1.0	0.9	<0.2	0.7	
p-m-Xylene	ug/L	300 HRL	--	<0.2	<0.3	4.1	<0.3	<0.3	<0.3	<2.0	<0.3	<1.0	1.1	0.5	0.6	<2.0	0.5	<0.3	0.5	
Xylene (total)	ug/L	300 HRL	10000 MCL	<0.4	<0.5	13.6	<0.5	<0.5	<0.5	<0.5	<3.0	<0.5	<2.0	4.1	1.9	1.7	<3.0	1.4	<0.5	1.2

Notes:

Bold face - detect</

Table 4
 Monitoring Well Groundwater Analytical Results - Platteville Formation
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name: CWI Name:	W101	W101-DUP	W101	W101	W101	W120	W120	W120	W120	W124	W131	W131	W131	W131	W131	W132	
		MN Unique Well No.: Aquifer:	00149711	00149711	00149711	00149711	00149711	00165576	00165576	00165576	00165576	00165579	00165586	00165586	00165586	00165586	00165586	00165587	
		STS/AECOM Sample ID:	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	W124						
		MDH Sample No.: Sample Date:	200710982	200710997		200912071	13D1907-05	200710987		200911626	13E0012-10	200514035		200610301	20070969		200911625	13D1907-03	200514033
		Notes:																	
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards		Pace Sample No.: W101-051308			Pace Sample No.: W120-051208							Pace Sample No.: W131-050708				
Benzene	ug/L	2 HRL	5 MCL	6.3	6.5	3.72	5.9	2.3	5.1	0.792 J	10	10	<0.2	<0.2	<0.2	<1.0	<0.2	<0.20 1.4	
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Chloroethane	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<5.0	<0.1	<0.10	<0.1	<5.0	<1.0	<1.0	<0.1	0.1	<0.1	<0.1	<5.0	<0.1 <0.10 <0.1	
1,1-Dichloroethane	ug/L	--	--	0.18 J	0.18 J	<1.0	0.2	<0.20	<0.2	<1.0	<2.00	<1.0	0.6	<0.2	<0.2	<1.0	<0.2	<0.20 0.3	
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<1.0	0.7	<0.20	<0.2	<1.0	<2.00	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<0.20 <0.2	
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.2	<0.2	<1.0	<0.2	<0.50	0.5	<1.0	<5.00	<1.0	<0.5	<0.2	<0.2	<1.0	<0.2	<0.50 <0.5	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	19	32	<1.0	2.4	<0.20	110 RC	16.2	150 QB	58	<0.2	0.3	<0.2	0.18 J	<1.0	2.3 <0.20 <0.2	
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	7.5	11	1.52	1.9	<0.10	12	1.42	22	19	<0.1	<0.1	<0.1	<1.0	0.3	<0.10 <0.1	
Dichlorodifluoromethane	ug/L	700 HBV	--	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<5.00	<1.0	<1.0	<0.1	<0.1	<0.1	<1.0	<0.1	<1.0 <1.0	
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Isopropylbenzene	ug/L	300 HRL*	--	<0.5	<0.5	<1.0	0.3 J	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<1.0	<0.50	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Naphthalene	ug/L	300 HRL	--	<1.0	<1.0	<5.0	<1.0	<1.0	2.0	<5.0	<10.00	<1.0	<1.0	6.2	<1.0	<1.0	<5.0	<1.0 <1.0	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<1.0	<0.2	<0.20	0.6	<1.0	<2.00	<1.0	<0.2	12	0.3	1.9	<1.0	1.0 <0.20 <0.2	
Tetrahydrofuran	ug/L	--	--	<10	<10	<5.0	<10	<10	<10	<5.0	<25.00	<1.0	<10	<10	<10	<10	<5.0	<10 <10	
Toluene	ug/L	200 HBV	1000 MCL	0.19 J	0.17 J	<1.0	0.2 J	0.65	0.15 J	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	0.50 <0.5	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<1.0	<0.2	<0.20	<0.2	<1.0	<5.00	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<0.20 <0.2	
Trichloroethene (TCE)**	ug/L	0.4 HRL	5 MCL	0.1	0.2	<1.0	0.2	<0.10	1.3	<1.0	<1.00	<1.0	<0.1	2.7	0.2	0.7	<1.0	0.5 <0.10 <0.1	
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	<1.0	<0.5	<0.50	<0.5	<1.0	<5.00	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50 <0.5	
Vinyl Chloride**	ug/L	0.2 HRL	2 MCL	2.5	3.6	<1.0	0.6	<0.20	33.0	2.53	60	33	<0.2	<0.2	<0.2	<0.2	<0.20	0.7	
o-Xylene	ug/L	300 HRL	--	<0.2	<0.2	<1.0	<0.2	<0.20	<0.2	<1.0	<2.00	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<0.20 <0.2	
p&m-Xylene	ug/L	300 HRL	--	<0.3	<0.3	<2.0	<0.3	<0.30	<0.3	<2.0	<3.00	<1.0	<0.3	<0.3	<0.3	<2.0	<0.30	<0.3	
Xylene (total)	ug/L	300 HRL	10000 MCL	<0.5	<0.5	<													

Table 4
 Monitoring Well Groundwater Analytical Results - Platteville Formation
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:	W143	W143	W143	W143	W143	W143-DUP-1	W421	W421	W421	W421	W421	W421	W421 DUP-6	W424	W426			
		CWI Name:																		
		MN Unique Well No.:	00216051	00216051	00216051	00216051	00216051	00216051	00434044	00434044	00434044	00434044	00434044	00434044	00439809	00439812				
		Aquifer:	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville			
		STS/AECOM Sample ID:							SLP 421							W424				
		MDH Sample No.:	200610305	200710971		200912064	13D1907-01	3D1907-08	200432996		200610296	200710964		200911620	13F0048-03	13F0048-05	200514028			
		Sample Date:	5/3/2005	5/3/2006	5/8/2007	5/13/2008	5/12/2009	4/29/2013	4/29/2013	12/9/2004	5/3/2005	5/3/2006	5/8/2007	4/29/2008	5/7/2009	6/3/2013	6/2/2005			
		Notes:	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	Spigot Water Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	Collected by AECOM	Discrete Sample	PAH Split Sample			
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards		Pace Sample No.: W143-051308							Pace Sample No.: W421-042908								
Benzene	ug/L	2 HRL	5 MCL	1.1	12	0.6	<1.0	1.1	11	11	28.0	32.0	25.0	29.0	25.8	26.0	22	22	<0.2	0.8
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	0.5	<0.5	<0.5	0.48 J	<10	<5.00	<1.0	<1.0	<0.5	<0.5
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<10	<5.00	<1.0	<1.0	<0.5	<0.5
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<10	<10.00	<1.0	<1.0	<0.5	<0.5
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<0.1	<5.0	<0.1	<0.10	<0.10	<0.1	<0.1	<0.1	<0.1	<50	<1.0	<1.0	<1.0	<0.1	0.1
1,1-Dichloroethane	ug/L	--	--	<0.2	1.7	<0.2	<1.0	<0.2	1.9	1.9	0.3	3.9	0.3	<0.2	<10	<2.00	<1.0	<1.0	<0.2	<0.2
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<0.2	<1.0	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<10	<2.00	<1.0	<1.0	<0.2	<0.2
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.2	1.7	<0.2	<1.0	<0.2	21	20	2.3	<0.2	6.6	9.3	<10	<5.00	1.1	1.1	<0.5	<0.2
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	14	400 RC	23	26.8	35	7600 D	7600 D	410	810.0	1500 RC	2500 RC	1720.0	870 QB	310 D	330 D	<0.2	<0.2
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	4.7	150 RC	9.3	12.8	16	580 D	560 D	260.0	330.0	290 RC	210 RC	151 J	230.0	58	60	<0.1	0.1
Dichlorodifluoromethane	ug/L	700 HBV	--	<0.1	<0.1	<0.1	<1.0	<0.1	1.1	1.2	<1.0	<0.1	<0.1	<0.1	<10	<10.00	<1.0	<1.0	<0.1	<0.1
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<10	<5.00	<1.0	<1.0	<0.5	<0.5
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	3.2	<0.5	0.682 J	0.9	1.0	1.0	31	31	<0.5	33	31.2	32	36	36	<0.5	13
Isopropylbenzene	ug/L	300 HRL*	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	4.8	5	4.5	5.6	<10	5.0	4.8	5.2	<0.5	4.3
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<10	<5.00	<1.0	<1.0	<0.5	1.2
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<10	<5.00	<2.0	<2.0	<0.5	<0.5
Naphthalene	ug/L	300 HRL	--	6.3	3.9	<1.0	0.895 J	1.5	<1.0	360.0	230	450 RC	37 QF	133 J	280	680 D	800 D	<1.0	9.6	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	2.1	1.6	1.5	1.7	<10	<5.00	2.0	2.2	<0.5	1.6
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<10	<5.00	<1.0	<1.0	<0.5	<0.5
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	22.0	37.0	10.0	0.662 J	0.4	<0.20	<0.20	42.0	27.0	1.4	0.2	<10	<2.00	<1.0	<1.0	<0.2	<0.2
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	<5.0	<10	<10	<10	<10	<10	<10	<10	<50	<100.00	<10	<10	<10	<10
Toluene	ug/L	200 HBV	1000 MCL	<0.5	0.8	0.14 J	<1.0	0.5	1.1	2.5	2	2.2	2.3	<10	<5.00	2.5	2.6	32	0.6	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<0.2	<1.0	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<10	<2.00	<1.0	<1.0	<0.2	<0.2
Trichloroethene (TCE)**	ug/L	0.4 HRL	5 MCL	93.0	2200 RC	108.0	92.5	81.0	320 D	310 D	760.0	259.0	3.9	1.8	<10	1.0	<1.0	<1.0	<0.1	<0.1
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	5.9	7.8	3.9	6.0	<10	9.0	8.3	9.3	<0.5	13
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	<0.50	2.4	3.2	1.8	3.5	<10	<5.00	4.1	4.6	<0.5	8.5
Vinyl Chloride**	ug/L	0.2 HRL	2 MCL	2.4	42.0	1.7	2.91	4.6	280 D	270 D	100	150.0	160 RC	340 RC	322.0	510.0	280 D	310 D	<0.2	<0.2
o-Xylene	ug/L	300 HRL	--	<0.2	0.7	<0.2	<1.0	0.2	0.35	0.36	16	20	17	22	16.4	16	22	<0.2	6.5	
p-m-Xylene	ug/L	300 HRL	--	<0.3	0.6	<0.3	<2.0	0.26 J	0.64	0.65	14									

Table 4
 Monitoring Well Groundwater Analytical Results - Platteville Formation
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:	W426D	W426	W426	W426	W426-DUP	W428	W428	W428	W428	W429	W429	W429	W431	W431	W431		
		CWI Name:																	
		MN Unique Well No.:	00439812	00439812	00439812	00439812	00439812	00439810	00439810	00439810	00439810	00439724	00439724	00439724	00462935	00462935	00462935		
		Aquifer:	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville		
		STS/AECOM Sample ID:																	
		MDH Sample No.:	200611312	200710974		200911627	200911628		200610302	200710991		200911618	200514031	200514031	200514031	200610303	200710968		
		Sample Date:	5/2/2005	5/8/2006	5/9/2007	5/12/2008	5/8/2009	5/3/2005	5/3/2006	5/8/2007	5/7/2008	5/7/2009	6/2/2005	6/2/2005	5/3/2005	5/3/2006	5/8/2007		
		Notes:	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by Pace for EPA	Discrete Sample	Discrete Sample, MS Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample						
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards			Pace Sample No.: W426-051208					Pace Sample No.: W428-050708								
Benzene	ug/L	2 HRL	5 MCL	0.8	<1.0	0.7	<1.0	0.2	0.2	0.2	0.4	0.16 J	<1.0	<0.2	<0.2	<0.2	4.6	3.6	4.5
n-Butylbenzene	ug/L	--	--	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chlorodibromoethane	ug/L	--	--	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroethane	ug/L	--	--	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroform	ug/L	30 HRL	--	0.1	<1.0	<0.1	<5.0	<0.1	<0.1	<0.1	<0.1	<5.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
1,1-Dichloroethane	ug/L	--	--	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	0.2	0.4	
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	0.4	0.5	
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.5	<0.5	<0.2	<0.2	0.8	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	0.2	<1.0	0.4	<1.0	0.5 QB	1.1 QB	<0.2	<0.2	<1.0	2.7	<0.2	<0.2	<0.2	89.0	22	180 RC
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	0.1	<1.0	0.2	<1.0	<0.1	0.2	<0.1	<0.1	<1.0	0.3	<0.1	<0.1	<0.1	41	14	51
Dichlorodifluoromethane	ug/L	700 HBV	--	<0.1	<1.0	<0.1	<1.0	<0.1	<0.1	<1.0	<0.1	<1.0	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	
Dichlorofluoromethane	ug/L	--	--	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	5.7	5.1	4.5	
Ethylbenzene	ug/L	50 HBV	700 MCL	12	6.2	12	3.88	0.48 J	0.4 J	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	ug/L	300 HRL*	--	4.3	1.9	3.9	1.11	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
p-Isopropyltoluene	ug/L	--	--	1.1	<1.0	0.7	<1.0	0.3 J	0.3 J	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	ug/L	300 HRL	--	8.9	4.1	14 QR	1.44 J	2.3 QE	2.3	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.763 J QF	
n-Propylbenzene	ug/L	--	--	1.6	0.8 J	1.4	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Styrene	ug/L	--	100 MCL	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<1.0	0.4	<1.0	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Tetrahydrofuran	ug/L	--	--	<10	<1.0	<10	<5.0	<10	<10	<10	<10	<5.0	<10	<10	<10	<10	<10	<10	
Toluene	ug/L	200 HBV	1000 MCL	0.7	0.5 J	0.6	<1.0	0.2 J	0.2 J	<0.5	<0.5	0.15 J	<1.0	<0.5	<0.5	<0.5	<0.5	0.16 J	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Trichloroethene (TCE)**	ug/L	0.4 HRL	5 MCL	<0.1	<1.0	0.3	<1.0	<0.1	0.1	<0.1	0.06 J	<0.1	<1.0	0.2	<0.1	<0.1	7.4	1.0	3.0
1,2,4-Trimethylbenzene	ug/L	--	--	12	4.4	5.7	2.33	2.3	2.2	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	8.3	2.9	3.9	1.83	1.9	1.8	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vinyl Chloride**	ug/L	0.2 HRL	2 MCL	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	9.1	9.7	12.0
o-Xylene	ug/L	300 HRL	--	6.4	2.9	4.2	1.92	1.7	1.5	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
p&m-Xylene	ug/L	300 HRL	--	3.4	2	2.5	<2.0	0.9	0.9	<0.3	<0.3	<2.0	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	
Xylene (total)	ug/L	300 HRL	10000 MCL	9.8	4.9	6.7	3.92	2.6	2.4	<0.5	<0.5	<3.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	

Notes:

Bold face - detect

Table 4
 Monitoring Well Groundwater Analytical Results - Platteville Formation
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:	W431	W431	W431	W433	W433FB	W433FB	W433	W433	W433	W433 DUP	W433	W434	W434	W434	W434	W434				
		CWI Name:												W434- ST. LOUIS PARK B-D								
		MN Unique Well No.:	00462935	00462935	00462935	00462933	00462933	00462933	00462933	00462933	00462933	00462933	00462933	00463012	00463012	00463012	00463012	00463012				
		Aquifer:	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville				
		STS/AECOM Sample ID:												SLP 434								
		MDH Sample No.:	200911621	13D1907-07			200610297	200710965		200912065	200912066	13E0012-11	200432997			200710963		200911624				
		Sample Date:	5/7/2008	5/7/2009	4/29/2013	5/2/2005	5/2/2005	5/3/2006	5/8/2007	5/13/2008	5/12/2009	5/12/2009	4/30/2013	12/9/2004	5/3/2005	5/3/2006	5/8/2007	5/7/2008				
		Notes:	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	PAH Split Sample	Sampled by AECOM	Spigot Water Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample					
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards	Pace Sample No.: W431-050708						Pace Sample No.: W433-051308							Pace Sample No.: W434-050708					
Benzene	ug/L	2	HRL	5	MCL	4.36	5	5.6	31.0	<0.2	<0.2	35.0	24.7	28 RC	28 RC QE	33	23.0	24.0	16.0	16.0	13.2	14.0
n-Butylbenzene	ug/L	--	--	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00	
Chlorodibromoethane	ug/L	--	--	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00	
Chloroethane	ug/L	--	--	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00	
Chloroform	ug/L	30	HRL	--	<5.0	<1.0	<0.10	<0.1	0.1	<0.1	<0.1	<5.0	<0.1	<10	<0.1	<0.1	<0.1	<0.1	<0.1	<25.00	<1.0	
1,1-Dichloroethane	ug/L	--	--	<1.0	<2.00	0.57	<0.2	<0.2	0.4	<0.2	<1.0	0.3	0.3 QD	<10	0.4	<0.2	<0.2	<0.2	<0.2	<5.00	<2.00	
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<1.0	<2.00	<0.20	<0.2	<0.2	<1.0	1.8	1.8 QD	<10	<0.2	0.2	<0.2	<0.2	<0.2	<5.00	<2.00	
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	1.12	<5.00	<0.50	<0.2	<0.2	<1.0	1.8	1.8	<10	6.5	11.0	9.3	6.0	<5.00	<5.00		
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	288.0	450 QB	<0.20	1	<0.2	620 RC	150 RC	17.6	190 RC	190 RC QE	690	290.0	1100.0	1700 RC	1200 RC	696.0	330 QB
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	50.9	60	<0.10	3	<0.1	46	27	4.40	26	26	34	43	63	56	54	33.4	35
Dichlorodifluoromethane	ug/L	700	HBV	--	--	<1.0	<5.00	<1.0	<0.1	<0.1	<0.1	<1.0	<0.1	<10	<1.0	<0.1	<0.1	<0.1	<0.1	<5.00	<5.00	
Dichlorofluoromethane	ug/L	--	--	3.19	5 J	3.6	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00	
Ethylbenzene	ug/L	50	HBV	700	MCL	<1.0	<5.00	<0.50	<0.5	<0.5	0.3 J	<0.5	<1.0	<0.5	<10	2.5	<0.5	0.6	0.30 J	<5.00	<5.00	
Isopropylbenzene	ug/L	300	HRL*	--	--	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5	<10	1.3	1.2	0.4 J	0.44 J	<5.00	<5.00		
p-Isopropyltoluene	ug/L	--	--	<1.0	<5.00	<0.50	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00		
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00	
Naphthalene	ug/L	300	HRL	--	--	<5.0	<10.00	<1.0	3.4	1.3	<1.0	2.0 QF	<5.0	<1.0	<10	8.9	<1.0	1.7	1.1 QF	<25.00	<10.00	
n-Propylbenzene	ug/L	--	--	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00		
Styrene	ug/L	--	--	100	MCL	<1.0	<5.00	<0.50	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.00	<5.00	
Tetrachloroethene (PCE)	ug/L	5	HRL	5	MCL	<1.0	<2.00	<0.20	<0.2	<0.2	0.9	0.14 J	<1.0	<0.2	<10	1200.0	760.0	39.0	7.5	4.47 J	<2.00	
Tetrahydrofuran	ug/L	--	--	<5.0	<25.00	<10	<10	<10	<10	<5.0	<10	<10	<10	<10	<10	<10	<10	<10	<25.00	<2.00		
Toluene	ug/L	200	HBV	1000	MCL	<1.0	<5.00	0.36	<0.5	<0.5	0.6	0.7	<1.0	0.5	<10	<0.5	0.7	<0.5	0.22 J	<5.00	<5.00	
1,1,1-Trichloroethane	ug/L	9000	HRL	200	MCL	<1.0	<5.00	<0.20	<0.2	<0.2	<0.2	<1.0	<0.2	<10	<0.2	<0.2	<0.2	<0.2	<0.2	<5.00	<5.00	
Trichloroethene (TCE)**	ug/L	0.4	HRL	5	MCL	2.74	3.0	<0.10	0.4	<0.1	25	<0.1	<1.0	0.3	0.3	<10	900.0	680.0	56.0	13.0	8.67	2.00
1,2,4-Trimethylbenzene	ug/L	--	--	<1.0	<5.00	<0.50	<0.5	<0.5	<0.5	<1.0	<0.5											

Table 4
 Monitoring Well Groundwater Analytical Results - Platteville Formation
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:	W434	W437	W437	W437	W437	W437	W438	W438	W438	W438	W438	D. BATTLE	D. SJOLANDER	R. & T. RATHMANNER		
	CWI Name:													--	--	LLOYD NELSON		
	MN Unique Well No.:	00463012	00498917	00498917	00498917	00498917	00498917	00498917	00498919	00498919	00498919	00498919	00498919	00223763	00218181	00206459		
	Aquifer:	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platteville	Platt/St. Peter		
	STS/AECOM Sample ID:													6008 Kaymar	4540 Vandvork Dr.	4366 Thielen Ave		
	MDH Sample No.:	13E0103-02	200610316	200710984		200912056	13E0012-13			200710970		200912070	13E0012-04	200531631	200531632	200532481		
	Sample Date:	5/1/2013	5/2/2005	5/2/2006	5/7/2007	5/12/2008	5/8/2009	4/30/2013	5/3/2005	5/3/2006	5/8/2007	5/13/2008	5/12/2009	4/30/2013	11/19/2005	11/21/2005		
	Notes:	Collected by AECOM	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Collected by AECOM	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample		
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards			Pace Sample No.: W437-051208						Pace Sample No.: W438-051308							
Benzene	ug/L	2 HRL	5 MCL	12 D	2.4	1.8	1.5	<25.0	1.2	<10	15.0	14.0	15.0	10.6	9.0	7.8		
n-Butylbenzene	ug/L	--	--	<10	<0.5	<0.5	<0.5	<25.0	1.3	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5		
Chlorodibromoethane	ug/L	--	--	<10	<0.5	<0.5	<0.5	<25.0	<0.5	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5		
Chloroethane	ug/L	--	--	<10	<0.5	<0.5	<0.5	<25.0	<0.5	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5		
Chloroform	ug/L	30 HRL	--	<10	0.1	<0.1	<0.1	<125	<0.1	<10	<0.1	<0.1	<50	<0.1	<1.0	<0.1		
1,1-Dichloroethane	ug/L	--	--	<10	<0.2	<0.2	<0.2	<25.0	<0.2	<10	0.2 J	0.2	<10	0.2	<1.0	<0.2		
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<10	<0.2	<0.2	<0.2	<25.0	<0.2	<10	<0.2	<0.2	<10	<0.2	<1.0	<0.2		
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<10	<0.2	2.8	1.2	<25.0	<0.5	<10	3.7	3.7	5.5	<10	0.6	<1.0	<0.2	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	510 D	86.0	980 RC	460 RC	26.8	55	1700 D	190.0	300 RC	366.0	862.0	78 RC	<1.0	<0.2	
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	31 D	2.5	3.4	3.9	<25.0	3.8	20 D	18	24	41	26.5	11	<1.0	<0.1	
Dichlorodifluoromethane	ug/L	700 HBV	--	<10	<0.1	<0.1	<0.1	<25.0	<0.1	<10	<0.1	<0.1	<10	<0.1	<1.0	<0.1		
Dichlorofluoromethane	ug/L	--	--	<10	<0.5	<0.5	<0.5	<25.0	<0.5	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5		
Ethylbenzene	ug/L	50 HBV	700 MCL	<10	13	9.7	6.8	<25.0	4.7	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
Isopropylbenzene	ug/L	300 HRL*	--	<10	8.3	4.7	6.0	<25.0	4.6	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
p-Isopropyltoluene	ug/L	--	--	<10	1.4	0.7	1.0	<25.0	<0.5	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<20	<0.5	<0.5	<0.5	<25.0	<0.5	<20	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
Naphthalene	ug/L	300 HRL	--	<10	4100.0	3600.0	59	1430.0	3800 RC	480 D	1.6	<1.0	<1.0	9.30 J	<1.0	<2.0	<1.0	
n-Propylbenzene	ug/L	--	--	<10	2.5	1.5	2.1	<25.0	2.2	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
Styrene	ug/L	--	100 MCL	<10	<0.5	<0.5	<0.5	<25.0	<0.5	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<10	13000.0	3900.0	6500 RC	5290.0	8000 RC	<10	3.6	1.3	0.2	<10	0.2	<1.0	<0.2	
Tetrahydrofuran	ug/L	--	--	<100	<10	<10	<10	<125	<10	<100	<10	<10	<50	<10	<10	<10	<10	
Toluene	ug/L	200 HBV	1000 MCL	<10	0.9	0.7	0.6	<25.0	0.48 J	<10	<0.5	<0.5	0.14 J	<10	<0.5	<1.0	<0.5	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<10	<0.2	<0.2	<0.2	<25.0	<0.2	<10	<0.2	<0.2	<10	<0.2	<1.0	<0.2	<0.2	
Trichloroethene (TCE)**	ug/L	0.4 HRL	5 MCL	<10	2600.0	4200.0	3600 RC	2760.0	7900 RC	<10	200.0	150 RC	71.0	21.6	3.0	<1.0	<0.1	<0.1
1,2,4-Trimethylbenzene	ug/L	--	--	<10	<0.5	24	32	<25.0	21	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	<10	19	6.9	14	<25.0	11	<10	<0.5	<0.5	<10	<0.5	<1.0	<0.5	<0.5	
Vinyl Chloride**	ug/L	0.2 HRL	2 MCL	120 D	8.6	40.0	21.0	<25.0	7.9	210 D	36.0	31.0	36.0	23.3	10.0	<1.0	<0.2	<0.2
o-Xylene	ug/L	300 HRL	--	<10	7.4	4.4	3.2	<25.0	1.8	<10	<0.2	<0.2	<10	<0.2	<1.0	<0.2	<0.2	
p&m-Xylene	ug/L	300 HRL	--	<10	14	8.1	6.7	<25.0	3.9	<10	<0.3	<0.3	<20	<0.3	<1.0	<0.3	<0.3	
Xylene (total)	ug/L	300 HRL	10000 MCL	<20	24.4	12.5	9.9	<50.0	5.8	<20	<0.5	<0.5	<30	<0.5	<2.0	<0.5	<0.5	

Notes:

Bold face - detect

0.5	- framed cell - detected concentration exc
18	- shaded cell - detected concentration exc
135	- increasing trend in concentrations
37	- decreasing trend in concentrations
???	-

D - Report Limit changed due to sample dilution

J - The analyte positively identified, below the report level, estimated

QR - Result estimated

Table 4
**Monitoring Well Groundwater Analytical Results- St. Peter Sandstone
 Wells**
Edina Groundwater VOC Contamination Study – Continuation in 2013
AECOM Project 60283395

			Well Name: CWI Name: MN Unique Well No.: AQUIFER: STS/AECOM Sample ID: MDH Sample No.: Sample Date: Notes:	SLP3	SLP3	SLP3	SLP3	SLP3	PERRY A & CINDY L WITKIN	W14	W21	W24	W24	W24	W33	W33R	W33R	W122		
				ST. LOUIS PARK 3	ST. LOUIS PARK 3	ST. LOUIS PARK 3	ST. LOUIS PARK 3	ST. LOUIS PARK 3	J. J. LIEBENBERG					ROBINSON RUBBER CO.	ROBINSON RUBBER CO.	ROBINSON RUBBER CO.	ROBINSON RUBBER CO.			
				00206440	00206440	00206440	00206440	00206440	00203620	00114472	00216049	00160018	00160018	00160018	00160018	00206449	00206449			
				Platt.-St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter-PDCJ	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter			
									EDINA PRI #1	W14	W21									
				200423868	200423868	200610299	200710992		200912061	200429907	200514032	200514046	200610292	200712749	200811238	200911603	200610293	200725301		
				8/16/2004	5/9/2005	5/4/2006	5/10/2007	Spring 2008	5/11/2009	10/22/04	6/2/2005	6/3/2005	5/1/2006	5/22/2007	5/5/2008	5/4/2009	5/1/2006	200811241		
				City of St. Louis Park Data	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	Spigot Water Sample	Discrete Sample	Discrete Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	200911602		
																		5/9/2005		
Detected Contaminants			MN Drinking Water Standard	Federal Drinking Water Standards					Pace Sample No.: 0289-50060 SLP03											
Benzene	ug/L	2	HRL	5	MCL	<0.2	<0.2	<0.2	<5.00	<0.2	<0.2	<0.2	0.5	0.4	0.4	<1.0	<0.2	<0.2	<0.2	
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.2	<0.2	<0.2	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Chloroform	ug/L	30	HRL	--	--	<0.1	<0.1	<0.1	<5.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<0.5	<0.5	<0.5	
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1	<0.1	<1.0	
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<5.00	<0.2	<0.2	<0.2	0.4	0.6	0.5	<1.0	<0.2	<0.2	<0.2	
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<0.2	<0.2	<0.2	<5.00	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	<0.2	<0.2	
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	<0.5	<0.2	<0.2	<5.00	<0.2	<0.5	<0.5	<0.5	<0.2	<0.2	<1.0	<0.5	<0.5	<0.5	
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	<0.2	<0.2	0.2	6.56 J	<0.2	<0.2	<0.2	8.2	7	7.5	7.4	<1.0	<0.2	1.1	0.18 J
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	<0.1	<0.1	<0.1	1.64 J	<0.1	<0.1	<0.1	0.7	0.5	0.5	<1.0	<0.1	0.09 J	<0.1	
Dichlorodifluoromethane	ug/L	700	HBV	--	--	<0.5	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Ethylbenzene	ug/L	50	HBV	700	MCL	<0.2	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Isopropylbenzene	ug/L	300	HRL*	--	--	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Naphthalene	ug/L	300	HRL	--	--	<0.5	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Styrene	ug/L	--	100	MCL	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Tetrachloroethene (PCE)	ug/L	5	HRL	5	MCL	<0.2	<0.2	0.3	1.35 J	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	3.3	<0.2	
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	<10	<10	<5.00	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Toluene	ug/L	200	HBV	1000	MCL	<0.2	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
1,1,1-Trichloroethane	ug/L	9000	HRL	200	MCL	<0.2	<0.2	<0.2	<5.00	<0.2	<0.2	<0.2	<0.2	<0.2	0.12 J	<0.2	<0.2	<0.2	<0.2	
Trichloroethene (TCE) **	ug/L	0.4	HRL	5	MCL	<0.1	<0.1	0.07 J	0.1	4.57 J	<0.1	<0.1	<0.1	0.2	0.3	0.3	<1.0	<0.1	1.3	<0.1
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	--	--	<0.5	<0.5	<0.5	<5.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	
Vinyl Chloride **	ug/L	0.2	HRL	2	MCL	<0.5	<0.2	<0.2	<5.00	<0.2	<0.2	<0.2	<0.2	0.9	0.8	1.4	1.0	<1.0	<0.2	
o-Xylene	ug/L	300	HRL	--	--	<0.2	<0.2	<0.2	<5.00	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	
p&m-Xylene	ug/L	300	HRL	--	--	<0.2	<0.3	<0.3	<10.00	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<1.0	<0.3	<0.3	<0.3	
Xylene (total)	ug/L	300	HRL	10000	MCL	<0.4	<0.5	<0.5	<15.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	

Notes

Bold face - detect

Bold face	detect
	0.5
	18
	135
	37

- framed cell - detected concentration exceeds threshold
- shaded cell - detected concentration exceeds threshold
- increasing trend in concentrations
- decreasing trend in concentrations

D - Report Limit changed due to sample dilution

J - The analyte positively identified, below the report level, estimated

RC - Report level was changed due to sample dilution

* - due to new research, the MDH no longer recommends the HRL value

HBV - Health Based Values derived by Minnesota Department of Health

HRL - Health Risk Level derived and promulgated

MCL - Maximum Contaminant Level (USEPA)

****** = Compound laboratory method reporting

Table 4
 Monitoring Well Groundwater Analytical Results- St. Peter Sandstone
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:		W122	W122	W122	W122	W133	W133	W133	W133	W133	W409	W409	W409	W409	W410	W410	W410	W410				
		CWI Name:															W-410 (USGS W-24)	W-410 (USGS W-24)	W-410 (USGS W-24)	W-410 (USGS W-24)				
		MN Unique Well No.: Aquifer:		00165578	00165578	00165578	00165578	00165588	00165588	00165588	00165588	00165588	00432036	00432036	00432036	00432036	00432036	00434042	00434042	00434042	00434042			
		STS/AECOM Sample ID:		St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter											
		MDH Sample No.: Sample Date:		200710996	200811246	200912063		200710981	200811245	200912062	13D1907-02		200610306	200710967			200912072	200424655	200610294	200712750	200911601			
		Notes:		5/4/2006	5/10/2007	5/6/2008	5/12/2009	5/9/2005	5/4/2006	5/10/2007	5/6/2008	5/11/2009	4/29/2013	5/3/2005	5/3/2006	5/8/2007	5/13/2008	5/12/2009	8/23/2004	5/1/2006	5/22/2007	5/4/2009		
		Notes:		PAH Split Sample	Collected by AECOM	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	PAH Split Sample	City of St. Louis Park Data	PAH Split Sample	PAH Split Sample	PAH Split Sample										
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards													Pace Sample No.: W409-								
Benzene	ug/L	2	HRL	5	MCL	0.2 J	0.2	<0.2	0.3	0.4	0.4	0.3	<0.2	0.3	0.29	19.0	1.8	6.7	6	1.0	0.9	1.6	2.8	4.4
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroform	ug/L	30	HRL	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.555 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.4	<0.2	0.3	0.62	<0.2	<10	<0.2	<1.00	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.50	<0.2	<10	<0.2	<1.00	<0.2	<0.5	<0.2	<0.2
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	<0.2	<0.2	<0.2	18	5	5.4	3.8	0.3	4.2	4.2	2.4	1.3	1.3	0.872 J	0.7	0.6	2.4	3.5	4.7
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	<0.1	<0.1	<0.1	1.1	1.5	1.8	1.1	<0.1	1.4	1.2	9.1	3.6	2.7	1.57	1.1	0.4	1.0	1.6	2.1
Dichlorodifluoromethane	ug/L	700	HBV	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.00	<1.00	<0.5	<1.0	<1.0	
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	ug/L	50	HBV	700	MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<10	<0.2	<1.00	<0.2	<0.2	<0.2	<0.2
Isopropylbenzene	ug/L	300	HRL*	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.10	<10	0.7	0.596 J	<0.5	<0.5	0.28 J	0.5
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<10	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5
Naphthalene	ug/L	300	HRL	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	1.5	0.804 J	<1.0	<0.5	<1.0	4.4
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<10	0.25 J	<1.00	<0.5	<0.5	0.21 J	<0.5
Styrene	ug/L	--	--	100	MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (PCE)	ug/L	5	HRL	5	MCL	<0.2	<0.2	<0.2	7.3	1.7	11	0.6	<0.2	1.6	<0.20	<0.2	0.3	<0.2	<1.00</td					

Table 4
 Monitoring Well Groundwater Analytical Results- St. Peter Sandstone
 Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:	W411	W411	W411	W411	W411	W412	W412D	W412	W412	W412	R. & A. PERRIN	J. BLOOM	J. BLOOM	J. REICHERT	P. & R. LARSON	
	CWI Name:												WILLIAM JESUUP	JIM BLOOM	JIM BLOOM	ROY HAWKINSON	JOHN ANDERSON	
MN Unique Well No.:	00432035	00432035	00432035	00432035	00432035	00432034	00432034	00432034	00432034	00432034	00432034	00432034	00206590	00203130	00203130	00206488	00206548	
Aquifer:	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	St. Peter	
STS/AECOM Sample ID:													5608 Highland Rd	6825 Valley View Rd	6825 Valley View Rd	4800 Bywood St. W.	5524 Glengarry Pkwy	
MDH Sample No.:	200610310	200710995	200811244	200912060				200610309	200710994	200811243	200912057	200532477	200532478	200532478	200532480	200531633		
Sample Date:	5/9/2005	5/4/2006	5/10/2007	5/6/2008	5/11/2009	5/9/2005	5/9/2005	5/4/2006	5/10/2007	5/5/2008	5/11/2009	11/30/2005	11/30/2005	11/29/2005	11/19/2005			
Notes:	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	Spigot Water Sample	Spigot Water Sample, duplicate	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample		
Detected Contaminants	MN Drinking Water Standard	Federal Drinking Water Standards																
Benzene	ug/L	2 HRL	5 MCL	0.2	0.3	0.4	0.2	<0.2	1.1	1.1	1.0	0.16 J	0.1 J	<0.2	<0.2	<0.2	<0.2	
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Chloromethane	ug/L	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	--	--	< 0.2	0.6	0.3	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3.5	0.6	<0.2	<0.2	<0.2	<0.2	
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Dichlorodifluoromethane	ug/L	700 HBV	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.4 J	0.6	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Isopropylbenzene	ug/L	300 HRL*	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	ug/L	300 HRL	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.11 J	<0.2	2.0	<0.2	<0.2	<0.2	
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Toluene	ug/L	200 HBV	1000 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Trichloroethene (TCE) **	ug/L	0.4 HRL	5 MCL	<0.1	<0.1	0.055 J	<0.1	<0.1	<0.1	<0.1	0.1 J	0.083 J	<0.1	3.4	<0.1	<0.1	<0.1	<0.1
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vinyl Chloride **	ug/L	0.2 HRL	2 MCL	<0.2	2.6	1.0	1.1	1.6	<0.2	<0.2	<0.2	<0.2	0.6	<0.2	<0.2	<0.2	<0.2	
o-Xylene	ug/L	300 HRL	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
p&m-Xylene	ug/L	300 HRL	--	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	
Xylene (total)	ug/L	300 HRL	10000 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	

Notes:

Bold face - detect

Table 4
Monitoring Well Groundwater Analytical Results - Prairie du Chien /
Jordan Aquifer Wells Edina Groundwater VOC Contamination Study -
Continuation in 2013 AECOM Project 60283395

		Well Name:	WW WOLD & LM WOLD	PERRY A & CINDY L WITKIN	Mike Kelly 952-922-9012	Mike Kelly 952-922-9012	PETER M & ELLEN B KAISER	JASON F BROWN	Peter M Schmit/Kathi J. Wright	Peter M Schmit/Kathi J. Wright	ED2	ED2	ED2	ED2	ED2 DUP	ED2	ED2	ED3	ED3	ED4	ED4	ED6	ED6	ED6			
	CWI Name:	JOHN ANDERSON	J. J. LIEBENBERG	EDINA COUNTRY CLUB NO.1	EDINA COUNTRY CLUB NO.1	FRED SMITH	JOE ELIASON	LEW BONN	LEW BONN	EDINA 2	EDINA 2	EDINA 2	EDINA 2	EDINA 2	EDINA 2	EDINA 2	EDINA 3	EDINA 3	EDINA 4	EDINA 4	EDINA 6	EDINA 6	EDINA 6				
MN Unique Well No.: Aquifer:	00206547	00203620	00232315	00232315	00206502	00206599	00223769	00223769	00208399	00208399	00208399	00208399	00208399	00208399	00208399	00240630	00240630	00200561	00200561	00200564	00200564	00200564					
Drift-OPCJ	St. Peter-OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ				
STS/AECOM Sample ID:	PRI. #4	EDINA PRI #1	EDINA CC #1	EDINA CC #1 - Dup	Edina Pri #5	EDINA PRI #2	EDINA PR#3	EDINA PR#3 - Dup	EDINA #2	EDINA #2 - Dup							EDINA #3	EDINA #3	EDINA #4	EDINA #4	EDINA #6	EDINA #6	EDINA #6				
MDH Sample No:	200430253	200429907	200430525	200430526	200431474	200429907	200430251	200430252	200429900	200429901	200711648	200810155	200909540	200909546	201005065	13E0012-16	200430255	200611316	200430254	200909542	200429904	200909543	10E0186-07				
Sample Date:	10/27/04	10/22/04	11/01/04	11/01/04	11/10/04	10/22/04	10/27/04	10/27/04	10/22/04	10/22/04	05/15/07	05/01/08	04/27/09	04/27/09	03/15/10	04/30/13	10/27/04	05/09/06	10/27/04	04/27/09	10/22/04	04/27/09	05/27/10				
Notes:	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample, Duplicate	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample, Duplicate	Spigot Water Sample	Spigot Water Sample, Duplicate	PAH Split Sample (E2)	PAH Split Sample (E2)	Spigot Water Sample														
Detected Contaminants	MN Drinking Water Standards	Federal Drinking Water Standards																									
Benzene	ug/L	2	HRL	5	MCL	<0.2	<0.2	0.4	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	0.11 J	0.3	0.6	0.6	0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2		
Bromodichloromethane	ug/L	6	HRL	--		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			
n-Butylbenzene	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Chlorodibromoethane	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Chloroethane	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Chloroform	ug/L	30	HRL	--		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
Chloromethane	ug/L	--	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
1,1-Dichloroethane	ug/L	--	--			<0.2	<0.2	0.4	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.1 J	0.19 J	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.3 J	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	<0.2	<0.2	16	16	<0.2	<0.2	<0.2	<0.2	<0.2	1.8	2.0	3.7	9.9	23	23	9.5	9.8	<0.2	<1.0	<0.2	<0.2	<0.2
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	<0.1	<0.1	0.7	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.5	1.1	1.1	0.5	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane	ug/L	700	HBV	--		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.28 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
Dichlorofluoromethane	ug/L	--	--			<0.5	<0.5	1.0	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.4	1.3	0.47 J	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	ug/L	50	HBV	700	MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Isopropylbenzene	ug/L	300	HRL*	--		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
p-Isopropyltoluene	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Naphthalene	ug/L	300																									

Table 4
 Groundwater Analytical Results - Prairie du Chien / Jordan Aquifer Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
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		Well Name:	ED13	ED15	ED15	ED15	ED15	ED15	ED15	EDINA 16	ED17	ED17	ED TEST	MILASTAR CORPORAT. (W29)	MILASTAR CORPORAT. (W29)	MILASTAR CORPORAT. (W29)	MILASTAR CORPORAT. (W29)									
			CWI Name:	EDINA 13	EDINA 15	EDINA 15	EDINA 15	EDINA 15	EDINA 15	EDINA 16	EDINA 17	EDINA 17							FLAME INDUSTRIES	FLAME INDUSTRIES	FLAME INDUSTRIES	FLAME INDUSTRIES				
		MN Unique Well No.: Aquifer:	00203613	00207674	00207674	00207674	00207674	00207674	00207674	00203101	00200914	00200914	00748656	00748656	00748656	00748656	00748656	00748656	748656	00748656	00206454	00206454	00206454	00206454		
		STS/AECOM Sample ID:	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ		
		MDH Sample No.: Sample Date:	EDINA #15							EDINA 16	EDINA #17	EDINA 17	ED TEST #1 280'	ED TEST #1 330'	ED TEST #1 400'	ED TEST #1 310'	ED TEST #1 330'	ED TEST #1 310'	FI 1	FI 2						
		Notes:	13E0012-19	200429907		200711647	200810157	200909538	201005055	13F0048-02	200531627	200430256	200909541	200706710	200706712	200706714	200706716	2008036026	200909549	10E0186-02	13E0103-08	200432021	200432022	200612185	200711642	
		Sampled by AECOM	Spigot Water Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample (E15)	PAH Split Sample (E15)	Spigot Water Sample	Discrete Sample	Discrete Sample	Discrete Sample	Discrete Sample	Discrete Sample	Discrete Sample	Discrete Sample	Discrete Sample	Spigot Water Sample	Spigot Water Sample	PAH Split Sample	PAH Split Sample						
Detected Contaminants		MN Drinking Water Standards	Federal Drinking Water Standards																							
Benzene	ug/L	2	HRL	5	MCL	<1.0	<0.2	<1.0	0.11 J	0.1 J	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	0.9	0.9	<1.0	0.14 J	
Bromodichloromethane	ug/L	6	HRL	--		<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	
n-Butylbenzene	ug/L	--	--			<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Chlorodibromoethane	ug/L	--	--			<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Chloroethane	ug/L	--	--			<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Chloroform	ug/L	30	HRL	--		<1.0	<0.1	<1.0	<0.1	0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	0.8	<0.1	<1.0	<0.1	<1.0	<0.1	<1.0	
Chloromethane	ug/L	--	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	--	--			<1.0	1.3	1.3	1.3	1.9	1.4	1.3	2.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	0.5	0.5	<1.0	<0.2
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	<1.0	1.0	1.0	0.8	0.9	0.7	0.6	<1.0	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	0.5	<0.5	<1.0	<0.2
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	3.2	7.1	5.7	6.6	8.3	5.6	4	5.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	47	46	2.9	3.1
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	<1.0	0.4	<1.0	0.3	0.4	0.3	0.2	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	2.4	2.4	<1.0	0.2
Dichlorodifluoromethane	ug/L	700	HBV	--		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.2	<1.0	<0.1	
Dichlorofluoromethane	ug/L	--	--			<1.0	<0.5	<1.0	0.26 J	0.3 J	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	2.4	2.4	0.5 J	0.6	
Ethylbenzene	ug/L	50	HBV	700	MCL	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Isopropylbenzene	ug/L	300	HRL*	--		<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
p-Isopropyltoluene	ug/L	--	--			<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<2.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	12	<0.5	<2.0	<0.5	<0.5	<1.0	<0.5
Naphthalene	ug/L	300	HRL	--		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
n-Propylbenzene	ug/L	--	--			<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Sterene	ug/L	--	100	MCL	--	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	
Tetrachloroethene (PCE)	ug/L	5	HRL	5	MCL	<1.0	<0.2	<1.0	<0.2	<0.2	<0.2	&														

Table 4
 Groundwater Analytical Results - Prairie du Chien / Jordan Aquifer Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
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		Well Name:	HOPKINS 4	HOPKINS 5	HOPKINS 6	HOPKINS 6	HOPKINS 6	HOPKINS 6	HOPKINS 6	MINNETONKA 6	MINNETONKA 6	MINNETONKA 13	MINNETONKA 13A	SLP4	SLP4	SLP4	SLP4-DUP	SLP4	SLP4	SLP4	SLP5	SLP6	SLP6					
	CWI Name:	HOPKINS 4	HOPKINS 5	HOPKINS 6	HOPKINS 6	HOPKINS 6	HOPKINS 6	HOPKINS 6	HOPKINS 6	MINNETONKA 6	MINNETONKA 6	MINNETONKA 13	MINNETONKA 13A	ST. LOUIS PARK 4	ST. LOUIS PARK 4	ST. LOUIS PARK 4	ST. LOUIS PARK 4	ST. LOUIS PARK 4	ST. LOUIS PARK 4	ST. LOUIS PARK 4	ST. LOUIS PARK 5	ST. LOUIS PARK 6	ST. LOUIS PARK 6					
MN Unique Well No.:	00204068	00204570	00112228	00112228	00112228	00112228	00112228	00112228	00204054	00205165	00132263	00200542	00200542	00200542	00200542	00200542	00200542	00200542	00200542	00200542	00206457	00203196	00206457	00206457				
Aquifer:	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ				
STS/AECOM Sample ID:	HOPKINS 4	HOPKINS 5	HOPKINS 6	HOPKINS 10						MTKA 13	MTKA 13A														SLP #6			
MDH Sample No.:	200531623	200531626	200531628	200531624	200612186	200810150	200909545	200612187	200810153	200531622	200531625	200423866	200612182	200711644				200810158	200909544	10F0067-01	13E0012-14		200423867	200431473				
Sample Date:	11/10/05	11/10/05	11/10/06	11/10/05	05/16/06	04/30/08	04/27/09	05/16/06	04/30/08	11/10/05	8/16/2004	5/16/2006	5/14/2007	5/1/2008	5/1/2008	Spring 2008	4/27/2009	6/8/2010	4/30/2013	Spring 2008	8/16/2004	11/10/04						
Notes:	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample	Spigot Water Sample, Duplicate	PAH Split Sample	PAH Split Sample		PAH Split Sample	PAH Split Sample	Spigot Water Sample	City of St. Louis Park Data	PAH Split Sample	PAH Split Sample	PAH Split Sample	Collected by Pace for EPA	Spigot Water Sample	PAH Split Sample	Sampled by AECOM	Collected by Pace for EPA	City of St. Louis Park Data	Pace Sample No.: 0289-50062 SLP04	Pace Sample No.: 0289-50062 SLP05	Spigot Water Sample					
Detected Contaminants	MN Drinking Water Standards	Federal Drinking Water Standards																										
Benzene	ug/L	2	HRL	5	MCL	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	0.4	0.4	<1.0	<5.00	0.5	<1.0	<1.0	<5.00	0.8	0.8	
Bromodichloromethane	ug/L	6	HRL	--		<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<5.00	<0.2	<1.0	<5.00	<0.2	<0.2		
n-Butylbenzene	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<5.00	<0.5	<1.0	<5.00	<0.5	<0.5		
Chlorodibromoethane	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<5.00	<0.5	<1.0	<5.00	<0.5	<0.5		
Chloroethane	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<5.00	<0.5	<1.0	<5.00	<0.5	<0.5		
Chloroform	ug/L	30	HRL	--		<0.1	<0.1	<0.1	<0.1	<1.0	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<1.0	0.6	<0.1	<1.0	<5.00	<0.1	<1.0	<5.00	<0.1	<0.1		
Chloromethane	ug/L	--	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
1,1-Dichloroethane	ug/L	--	--			<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	0.10 J	0.1 J	<1.0	<5.00	0.1 J	<1.0	<1.0	<5.00	1.1	1.2	
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	<0.2	<1.0	<0.2	0.1 J	0.1 J	<1.0	<5.00	0.1 J	<1.0	<1.0	<5.00	<0.2	<0.2	
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	0.11 J	<1.0	<1.0	<5.00	<0.2	<1.0	<5.00	<0.5	<0.5		
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	<0.2	<0.2	1.0	0.9	1.2	0.3	0.4	<1.0	0.4	<0.2	<0.2	<0.2	3.5	5.4	8.7	0.7	<5.00	13	15	<5.00	22	24	
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	<0.1	<0.1	0.5	0.5	0.5 J	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	0.5 J	0.6	0.7	<1.0	<5.00	0.9	0.84 J	<1.0	<5.00	1.6	1.4
Dichlorodifluoromethane	ug/L	700	HBV	--		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.273 J	<1.0	0.5 J	<5.00	0.7 J	<1.0	<1.0	<5.00	1.4	1.3	
Dichlorofluoromethane	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	1.4	1.5	1.2	<5.00	1.2	1.2	<5.00	2.6	2.8		
Ethylbenzene	ug/L	50	HBV	700	MCL	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Isopropylbenzene	ug/L	300	HRL*	--		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	0.11 J	<1.0	<1.0	<5.00	<0.5	<1.0	<5.00	<0.5	<0.5		
p-Isopropyltoluene	ug/L	--	--			<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	&															

Table 4
**Groundwater Analytical Results - Prairie du Chien / Jordan Aquifer
 Edina Groundwater VOC Contamination Study – Continuation in 2011**
AECOM Project 60283395

Notes

Bold face - detect

2.0
2.1

- framed cell - detected concentration exceed
- shaded cell - detected concentration exceed
- increasing trend in concentrations
- decreasing trend in concentrations

D - Report Limit changed due to sample dilution

J - The analyte positively identified, below the report level, estimated
CP: B110 mg/dL (C2) - 100 mg/dL (C1) - 100 mg/dL (C3)

QR - Did not meet QC acceptance criteria - result is estimated
PC - Result has been checked by another analyst

RC - Report level was changed due to sample dilution

* - due to new research, the MDH no longer recommends the HRL value
HRL = Health-Based Values derived by Minnesota Department of Health

HBV - Health Based Values derived by Minnesota Department of Health
HRL - Health Risk Level derived and promulgated in rule by Minnesota

HRL - Health Risk Level derived and promulgated in rule by Minnesota Department of Health (MDEQ).

MCL - Maximum Contaminant Level (USEPA)

^{**} = Compound laboratory method reporting limit sometimes greater than HRL concentration.

Table 4
 Groundwater Analytical Results - Prairie du Chien / Jordan Aquifer Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name:	W401	W401	W401	W401	W402	W402	W402	W402	W403	W403	W403	W406
	CWI Name:						WAVELAND PARK W-402	WAVELAND PARK W-402	WAVELAND PARK W-402	WAVELAND PARK W-402				MINIKAHDA CLUB NO.1
MN Unique Well No.:	00453805	00453805	00453805	00453805	00508116	00508116	00508116	00508116	00508116	00508116	00439751	00439751	00439751	00200534
Aquifer:	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ	OPCJ
STS/AECOM Sample ID:														
MDH Sample No.:	200611317	200711649	200810149	10F0067-05			200612183	200711641	200810154		200612184	200711640	200810162	200612175
Sample Date:	5/9/2006	5/15/2007	4/30/2008	6/8/2010	5/10/2005	5/16/2006	5/14/2007	4/30/2008			5/16/2006	5/14/2007	5/1/2008	5/15/2006
Notes:	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample
Detected Contaminants	MN Drinking Water Standards	Federal Drinking Water Standards												
Benzene	ug/L	2	HRL	5	MCL	<1.0	0.12 J	0.1 J	<1.0	0.5	<1.0	0.2	<1.0	<1.0
Bromodichloromethane	ug/L	6	HRL	--		<1.0	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
n-Butylbenzene	ug/L	--	--			<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Chlorodibromoethane	ug/L	--	--			<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Chloroethane	ug/L	--	--			<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Chloroform	ug/L	30	HRL	--		<1.0	<0.1	<0.1	<1.0	<0.1	<1.0	<0.1	<0.1	<1.0
Chloromethane	ug/L	--	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	--	--			6.9	7.9	9.0	5.1	<0.2	<1.0	<0.2	<0.2	<1.0
1,2-Dichloroethane	ug/L	4	HRL	5	MCL	<1.0	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
1,1-Dichloroethene	ug/L	200	HRL	7	MCL	0.8 J	0.7	0.9	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
cis-1,2-Dichloroethene (DCE)	ug/L	50	HRL	70	MCL	18	7.8	10	7.3	<0.2	<1.0	<0.2	<0.2	<1.0
trans-1,2-Dichloroethene	ug/L	100	HRL	100	MCL	0.8 J	0.4	0.4	<1.0	<0.1	<1.0	<0.1	<0.1	<1.0
Dichlorodifluoromethane	ug/L	700	HBV	--		<1.0	<1.0	<0.1	<1.0	<0.1	<1.0	<0.1	<0.1	<1.0
Dichlorofluoromethane	ug/L	--	--			0.6 J	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Ethylbenzene	ug/L	50	HBV	700	MCL	<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Isopropylbenzene	ug/L	300	HRL*	--		<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
p-Isopropyltoluene	ug/L	--	--			<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	1.0	<0.5	<1.0
Methylene chloride (Dichloromethane)	ug/L	5	HRL	5	MCL	<1.0	<0.5	<0.5	<2.0	<0.5	<1.0	<0.5	<0.5	<1.0
Naphthalene	ug/L	300	HRL	--		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/L	--	--			<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Styrene	ug/L	--	100	MCL		<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Tetrachloroethene (PCE)	ug/L	5	HRL	5	MCL	<1.0	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
Tetrahydrofuran	ug/L	--	--			<1.0	<10	<10	<10	<10	<1.0	<10	<10	<1.0
Toluene	ug/L	200	HBV	1000	MCL	<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	0.12 J	0.096 J	<1.0
1,1,1-Trichloroethane	ug/L	9000	HRL	200	MCL	<1.0	0.2	0.1 J	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
1,1,2-Trichloroethane	ug/L	3	HRL	5	MCL	<0.2	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
Trichloroethene (TCE) **	ug/L	0.4	HRL	5	MCL	2.7	2.7	2.4	1.4	<0.1	<1.0	<0.1	<0.1	<1.0
1,2,4-Trimethylbenzene	ug/L	--	--			<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
1,3,5-Trimethylbenzene	ug/L	100	--	--		<1.0	<0.5	<0.5	<1.0	<0.5	<1.0	<0.5	<0.5	<1.0
Vinyl Chloride **	ug/L	0.2	HRL	2	MCL	1.1	0.3	0.5	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
o-Xylene	ug/L	300	HRL	--		<1.0	<0.2	<0.2	<1.0	<0.2	<1.0	<0.2	<0.2	<1.0
p&m-Xylene	ug/L	300	HRL	--		<1.0	<0.3	<0.3	<1.0	<0.3	<1.0	<0.3	<0.3	<1.0
Xylene (total)	ug/L	300	HRL	10000	MCL	<2.0	<0.5	<0.5	<2.0	<0.5	<2.0	<0.5	<0.5	<2.0

Notes:

Bold face - detect

2.0
2.1
135

37

D - Report Limit changed due to sample dilution

J - The analyte positively identified, below the report level, estimated

QR - Did not meet QC acceptance criteria - result is estimated

RC - Report level was changed due to sample dilution

* - due to new research, the MDH no longer recommends the HRL value

HBV - Health Based Values derived by Minnesota Department of Health

HRL - Health Risk Level derived and promulgated in rule by Minnesota Department of Health

MCL - Maximum Contaminant Level (USEPA)

** = Compound laboratory method reporting limit sometimes greater than HRL concentr.

Table 4
 Monitoring Well Groundwater Analytical Results - Deep Aquifers Wells
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

		Well Name: CWI Name:	W105	W105	W105	SLP11	SLP11	SLP12	SLP13	SLP13
		MN Unique Well No.: STS/AECOM Sample ID:	00200979	00200979	00200979	00206439	00206439	00206456	00206424	00206424
		Aquifer:	Ironton-Galesville	Ironton-Galesville	Ironton-Galesville	Mt.Simon-Hinckley	Mt.Simon-Hinckley	Mt.Simon-Hinckley	Mt.Simon-Hinckley	Mt.Simon-Hinckley
		MDH Sample No.: Sample Date:	200610289 05/01/06	200811240 05/05/08	200904989 05/05/09	200612176 05/15/06	200712741 05/21/07	200712742 05/21/07	200612177 05/15/06	200712743 05/21/07
Detected Contaminants		Notes:	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample	PAH Split Sample
Detected Contaminants		MN Drinking Water Standard	Federal Drinking Water Standards							
Benzene	ug/L	2 HRL	5 MCL	0.8	1.2	57 RC	<0.2	<0.2	<0.2	<0.2
Bromodichloromethane	ug/L	6 HRL	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Dichloroethane	ug/L	--	--	<0.2	0.8	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.2	0.3 J	<0.2	<0.2	<0.2	<0.2	<0.2
cis-1,2-Dichloroethene (DCE)	ug/L	50 HRL	70 MCL	0.3	35	100 RC	<0.2	<0.2	<0.2	<0.2
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	<0.1	1.6	36	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane	ug/L	700 HBV	--	<0.1	1.4	4.4 QR	<0.1	<0.1	<0.1	<0.1
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	50 HBV	700 MCL	1.1	<0.5	75 RC	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	ug/L	300 HRL*	--	<0.5	9.3	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	ug/L	--	--	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	ug/L	300 HRL	--	7.1	<1.0	2700 RC	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	2.7	<0.5	<0.5	<0.5	<0.5
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/L	200 HBV	1000 MCL	1.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichloroethene (TCE)**	ug/L	0.4 HRL	5 MCL	<0.1	0.8	0.3	<0.1	<0.1	<0.1	<0.1
1,2,4-Trimethylbenzene	ug/L	--	--	0.9	<0.5	36 RC	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	ug/L	100	--	0.4 J	<0.5	10	<0.5	<0.5	<0.5	<0.5
Vinyl Chloride **	ug/L	0.2 HRL	2 MCL	<0.2	6.6	92 RC	<0.2	<0.2	<0.2	<0.2
o-Xylene	ug/L	300 HRL	--	0.5	<0.2	46 RC	<0.2	<0.2	<0.2	<0.2
p&m-Xylene	ug/L	300 HRL	--	1.1	<0.3	73 RC	<0.3	<0.3	<0.3	<0.3
Xylene (total)	ug/L	300 HRL	10000 MCL	1.6	<0.5	119 RC	<0.5	<0.5	<0.5	<0.5

Notes:

Bold face - detect

1.4 - framed cell - detected concentration exceeds MN drinking water criteria
6.6 - shaded cell - detected concentration exceeds Federal drinking water criteria

* - due to new research, the MDH no longer recommends the HRL value

HBV - Health Based Values derived by Minnesota Department of Health

HRL - Health Risk Level derived and promulgated in rule by Minnesota Department of Health

D - Report Limit changed due to sample dilution

MCL - Maximum Contaminant Level (USEPA)

QR - Did not meet QC acceptance criteria - result is estimated

RC - Report level was changed due to sample dilution

** = Compound laboratory method reporting limit sometimes greater than HRL concentration

Table 4
 Monitoring Well Groundwater Analytical Results - QA/QC Samples
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

Detected Contaminants	Notes:	Well Name: CWI Name: MN Unique Well No.: Aquifer: STS/AECOM Sample ID: MDH Sample No: Sample Date:	TRIP BLNK	TRIP BLNK	FIELD BLANK	FIELD BLANK	TRIP BLANK	FIELD BLANK	FIELD BLANK	TRIP BLANK	P307FB	W136FB								
			200429907	200430257	200430527	200431475	200432023	200432998	200514583	200514040	200531630	200532483	200501040	20054044	200514052	200514582	200514039	5/9/2005	4/25/2005	4/26/2005
Benzene	ug/L	2 HRL	5 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	0.1	<0.1	0.1	<0.1	0.1	0.1
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2
cis-1,2-Dichloroethene	ug/L	#N/A HRL	#N/A MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane	ug/L	700 HBV	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	ug/L	300 HRL	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	ug/L	300 HRL	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	0.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/L	200 HBV	1000 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichloroethene (TCE) **	ug/L	0.4 HRL	5 MCL	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl Chloride **	ug/L	0.2 HRL	2 MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	ug/L	300 HRL	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p&m-Xylene	ug/L	300 HRL	--	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Xylene (total)	ug/L	300 HRL	10000 MCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

Bold face - detect

* - due to new research, the MDH no longer recommends the HRL value

HBV - Health Based Values derived by Minnesota Department of Health

Table 4
Monitoring Well Groundwater Analytical Results - QA/QC Samples
Edina Groundwater VOC Contamination Study – Continuation in 2011
AFCOM Project 60283395

Notes

Bold face - detect

* - due to new research, the MDH no longer recommends the HRL value

HBV - Health Based Values derived by Minnesota Department of Health

HRL - Health Risk Level derived and promulgated in rule by

HIRE - Health Risk Level derived and promulgated in Rule by Minnesota Department of Health (last update: May 18, 2010)

MCL - Maximum Contaminant Level (USEPA)

— MCL = Maximum Contaminant Level (USEPA)
— = Compound laboratory method reporting limit sometimes greater than

= Compound laboratory method reporting limit sometimes greater than HPLC concentration

HRL concentration

Table 4
 Monitoring Well Groundwater Analytical Results- QA/QC Samples
 Edina Groundwater VOC Contamination Study – Continuation in 2013
 AECOM Project 60283395

Detected Contaminants	Notes:	Well Name: CWI Name: MN Unique Well No.: Aquifer: STS/AECOM Sample ID: MDH Sample No.: Sample Date:	FIELD BLANK	TRIP BLANK	FIELD BLANK	TRIP BLANK	ERB-3	TRIP BLANK	ERB-2	TRIP BLANK	FB-1	ERB-1	TRIP BLANK	TRIP BLANK	
			10E0186-01	10E0186-08	10F0067-06	10F0067-08	13E0103-01	13E0103-05	13E0012-05	13E0012-02	13E0169-01	13E0169-02	13D1907-09	13D1907-10	
			5/27/2010	5/27/2010	6/3/2010	6/3/2010	5/1/2013	5/1/2013	4/30/2013	4/30/2013	5/2/2013	5/2/2013	4/29/2013	4/29/2013	
			PAH Split Sampling	PAH Split Sampling	PAH Split Sampling	PAH Split Sampling	AECOM								
		MN Drinking Water Standard	Federal Drinking Water Standards												
Benzene	ug/L	2 HRL	5 MCL	<0.2	<0.2	<1.0	<1.0	260	<20	190	<20	<20	<20	120	<20
n-Butylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
Chlorodibromoethane	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Chloroethane	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Chloroform	ug/L	30 HRL	--	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
1,1-Dichloroethane	ug/L	--	--	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<1.0
1,2-Dichloroethane	ug/L	4 HRL	5 MCL	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
1,1-Dichloroethene	ug/L	200 HRL	7 MCL	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
cis-1,2-Dichloroethene	ug/L	#N/A HRL	#N/A MCL	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
trans-1,2-Dichloroethene	ug/L	100 HRL	100 MCL	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<1.0
Dichlorodifluoromethane	ug/L	700 HBV	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorofluoromethane	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Ethylbenzene	ug/L	50 HBV	700 MCL	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Isopropylbenzene	ug/L	300 HRL	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
p-Isopropyltoluene	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Methylene chloride (Dichloromethane)	ug/L	5 HRL	5 MCL	32.0	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<0.50	<2.0
Naphthalene	ug/L	300 HRL	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Styrene	ug/L	--	100 MCL	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Tetrachloroethene (PCE)	ug/L	5 HRL	5 MCL	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
Tetrahydrofuran	ug/L	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Toluene	ug/L	200 HBV	1000 MCL	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
1,1,1-Trichloroethane	ug/L	9000 HRL	200 MCL	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
Trichloroethene (TCE) **	ug/L	0.4 HRL	5 MCL	<0.1	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<1.0
1,2,4-Trimethylbenzene	ug/L	--	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
1,3,5-Trimethylbenzene	ug/L	100	--	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Vinyl Chloride **	ug/L	0.2 HRL	2 MCL	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
o-Xylene	ug/L	300 HRL	--	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<1.0
p&m-Xylene	ug/L	300 HRL	--	<0.3	<0.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.30	<0.30	<1.0
Xylene (total)	ug/L	300 HRL	10000 MCL	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<0.50	<1.0

Notes:

Bold face - detect

* - due to new research, the MDH no longer recommends the HRL value

HBV - Health Based Values derived by Minnesota Department of Health

HRL - Health Risk Level derived and promulgated in rule by

Minnesota Department of Health (last update: May 18, 2010)

MCL - Maximum Contaminant Level (USEPA)

** = Compound laboratory method reporting limit sometimes greater than

HRL concentration

Table 4
Groundwater Analytical Results
Monitoring Wells

Chemical	SLP-01	SLP-02	SLP-03	SLP-04	SLP-05	SPS-432**	W-21	W-121	W-129	W-129-A	W-130	W-132	Trip Blank	HRL	HBV	RAA
1,1,2-Trichloroethane	37	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3	--	--
1,1-Dichloroethene	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	--	--
1,2-Dichloroethane	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1	--	--
Acetone	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	190	< 20.0	4000	--	--
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	63	< 1.0	< 1.0	2	2	< 1.0	< 1.0	< 1.0	2	--	--
cis-1,2-Dichloroethene	< 1.0	2.4	33	38	< 1.0	100	< 1.0	1.2	< 1.0	< 1.0	6.4	< 1.0	< 1.0	50	--	--
Dichlorodifluoromethane	11	< 1.0	< 1.0	1.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	--	--
Dichlorofluoromethane	7.9	6.4	< 1.0	1.5	< 1.0	< 1.0	< 1.0	3.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	--	--
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	50	--	--
Methyl ethyl ketone (MEK)	< 10.0	< 10.0	< 10.0	< 10.0	25	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	4000	--	--
Methyl tertiary butyl ether (MTBE)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3	3	< 2.0	< 2.0	< 2.0	NE	NE	60
Naphthalene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	70	--	--
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	300	--	--
p&m-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	300	--	--
Tetrachloroethylene	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5	--	--
trans-1,2-Dichloroethene	< 1.0	< 1.0	2	4.4	< 1.0	6.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	40	--	--
Trichloroethene (TCE)	< 1.0*	< 1.0*	3.6	< 1.0*	1.1	< 1.0*	< 1.0*	< 1.0*	< 1.0*	< 1.0*	< 1.0*	< 1.0*	< 1.0*	5	0.4	--
Vinyl chloride	20	4.8	< 1.0*	3.8	< 1.0*	100	< 1.0*	1.5	< 1.0*	< 1.0*	< 1.0*	< 1.0*	< 1.0*	0.2	--	--

Notes

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

= Concentration exceeds HRL/HBV/RAA

HRL = Health Risk Limit established by MPCA

HBV = Health Based Value established by MPCA

RAA = Risk Assessment Advice established by MPCA

All compounds described in micrograms per liter ($\mu\text{g/L}$)

NE = Not Established

* = Laboratory reporting limit is greater than established groundwater standard (HRL/HBV)

** = SPS-432 is located in SPS Parking Lot

Only compounds detected are shown

Table 5
2015 Water Level Elevations

Well ID	Aquifer	MP Elevation	DTW Elevation	Water Level AMSL
P307	Drift	913.1	29.68	883.42
P308	Drift	923.29	40.22	883.07
P309	Drift	925.16	42.22	882.94
P310	Drift	921.48	39.39	882.09
W425	Drift	923.81	37.95	885.86
W426	Platteville	923.95	40.05	883.9
W427	Drift	919.4	37.69	881.71
W428	Platteville	919.4	37.70	881.7
W437	Platteville	913.18	29.20	883.98
W438	Platteville	921.12	39.09	882.03
W27	Platteville	910.47	26.31	884.16

Water level measurements are in feet

MP - measuring point elevation above mean sea level

DTW - depth to water from measuring point

AMSL - above mean sea level



STS Consultants, Ltd.

Table 6. Soil Vapor Survey Analytical Results

St. Louis Park Soil Vapor Survey

STS Project Number: 200605038

Chemical	CAS Number	CAS Number	Residential Intrusion Screening Value / Soil Gas Action Level (3)	Chronic Health Criteria (RfC or HRV)	Source	Cancer Risk based Criteria (RfC or HRV) *	Source
			[ug/m ³]	[mg/m ³]		[mg/m ³]	
Sample Lab ID:							
1	2	3	4	5	6	9	10
Acetone	67641	67-64-1	3.50E+02	3.50E-01	(3)		
Benzene	71432	71-43-2	1.30E+00	3.00E-02	(1)	1.30E-03	(2)
Bromodichloromethane	75274	75-27-4	1.00E+00	7.00E-02	(3)	1.00E-03	(3)
2-Butanone (MEK)	78933	78-93-3	5.00E+03	5.00E+00	(3)		
Carbon disulfide	75150	75-15-0	7.00E+02	7.00E-01	(3)		
Carbon tetrachloride	56235	56-23-5	2.00E+00	4.00E-02	(3)	2.00E-03	(3)
Chlorobenzene	108907	108-90-7	6.00E+01	6.00E-02	(3)		
Chloroform	67663	67-66-3	1.00E+00	3.00E-01	(3)	1.00E-03	(3)
Cyclohexane	110827	110-82-7	6.00E+03	6.00E+00	(3)		
1,2-Dibromoethane	106934	106-93-4	4.00E-02	2.00E-04	(2)	4.00E-05	(3)
1,1-Dichloroethane	75343	75-34-3	5.00E+02	5.00E-01	(3)		
cis-1,2-Dichloroethylene	156592	156-59-2	3.50E+01	3.50E-02	(3)		
trans-1,2-Dichloroethylene	156605	156-60-5	7.00E+01	7.00E-02	(3)		
Dichlorodifluoromethane (Freon 12)	75718	75-71-8	2.00E+02	2.00E-01	(3)		
Dichlorotetrafluoroethane	1320372	1320-37-2					
Ethylbenzene	100414	100-41-4	2.20E+01	1.00E+00	(3)	2.20E-02	(3)
4-Ethyltoluene	622968	622-96-8	NA	NA	(3)		
n-Heptane	142825	142-82-5	NA	NA	(3)		
Hexane	110543	110-54-3	7.00E+02	7.00E-01	(3)		(1)
2-Hexanone	591786	591-78-6	NA	NA	(3)		
Methylene chloride (dichloromethane)	75092	75-09-2	5.20E+01	4.00E-01	(3)	5.20E-02	(3)
4-Methyl-2-pentanone (MIBK)	108101	108-10-1	3.00E+03	3.00E+00	(3)		
Propylene	115071	115-07-1	3.00E+03	3.00E+00	(3)		
Styrene	100425	100-42-5	9.00E+02	9.00E-01	(3)		
1,1,2,2-Tetrachloroethane	79345	79-34-5	4.00E-01	2.10E-01	(3)	4.00E-04	(3)
Tetrachloroethylene (PCE)	127184	127-18-4	8.00E+00	6.00E-01	(1)	8.00E-03	(3)
Toluene	108883	108-88-3	4.00E+02	4.00E-01	(3)		
1,1,1-Trichloroethane	71556	71-55-6	1.00E+03	1.00E+00	(3)		
Trichloroethylene (TCE)	79016	79-01-6	2.00E-01	6.00E-01	(3)	2.00E-04	(3)
Trichlorofluoromethane	75694	75-69-4	7.00E+02	7.00E-01	(3)		
1,1,2-Trichlorotrifluoroethane (CFC 113)	76131	76-13-1	3.00E+04	3.00E+01	(3)		
1,2,4-Trimethylbenzene	95636	95-63-6	6.00E+00	6.00E-03	(3)		(1)
1,3,5-Trimethylbenzene	108678	108-67-8	6.00E+00	6.00E-03	(3)		(1)
Xylene, m&p	108383	108-38-3	1.00E+02	1.00E-01	(3)		
Xylene, o	95476	95-47-6	1.00E+02	1.00E-01	(3)		

Notes

(1) - Database from the USEPA's spreadsheet models incorporating the Johnson and Ettinger (1991) Model for Subsurface Vapor Intrusion into Buildings (posted in 2004): http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm. These data are based on National Center for Environmental Assessment (NCEA) - these toxicological data are based on less strict scientific review compared to IRIS and are considered 3-year shelf life values.

(2) - Minnesota Department of Health Health Risk Value (HRV): <http://www.health.state.mn.us/divs/eh/air/hrvtable.htm>
 (3) - Draft Residential Intrusion Screening Values for Vapor Intrusion Risk Evaluation - June 2006 Version. MPCA (received

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* - Based on 1×10^{-5} risk slope factor
E - Analyte concentration exceeded the calibration range. The reported result is eliminated.

E - Analyte concentration exceeded
IS - The internal recovery associated

IS - The internal recovery associated with this result exceeds the lower control limit. The reported value is considered an estimated value.

SS. This analytic did not meet the secondary source verification criteria for the initial calibration. The reported results are considered an estimated value.

SS - This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value

4.05E+02 - Detected concentration exceeds Residential Intrusion Screening Value / MN Acute

- Detected concentration exceeds Residential Intrusion Screening Value / MN Action Level
- Detected concentration exceeds Residential Intrusion Screening Value / MN Action Level ten times or more



STS Consultants, Ltd.

Table 6. Soil Vapor Survey Analytical Results

St. Louis Park Soil Vapor Survey

STS Project Number: 200605038

Chemical	CAS Number	CAS Number	Residential Intrusion Screening Value / Soil Gas Action Level (3)	Chronic Health Criteria (RfC or HRV)	Source	Cancer Risk based Criteria (Rfc or HRV) *	Source
			[ug/m ³]	[mg/m ³]		[mg/m ³]	
Sample Lab ID:							
1	2	3	4	5	6	9	10
Acetone	67641	67-64-1	3.50E+02	3.50E-01	(3)		
Benzene	71432	71-43-2	1.30E+00	3.00E-02	(1)	1.30E-03	(2)
Bromodichloromethane	75274	75-27-4	1.00E+00	7.00E-02	(3)	1.00E-03	(3)
2-Butanone (MEK)	78933	78-93-3	5.00E+03	5.00E+00	(3)		
Carbon disulfide	75150	75-15-0	7.00E+02	7.00E-01	(3)		
Carbon tetrachloride	56235	56-23-5	2.00E+00	4.00E-02	(3)	2.00E-03	(3)
Chlorobenzene	108907	108-90-7	6.00E+01	6.00E-02	(3)		
Chloroform	67663	67-66-3	1.00E+00	3.00E-01	(3)	1.00E-03	(3)
Cyclohexane	110827	110-82-7	6.00E+03	6.00E+00	(3)		
1,2-Dibromoethane	106934	106-93-4	4.00E-02	2.00E-04	(2)	4.00E-05	(3)
1,1-Dichloroethane	75343	75-34-3	5.00E+02	5.00E-01	(3)		
cis-1,2-Dichloroethylene	156592	156-59-2	3.50E+01	3.50E-02	(3)		
trans-1,2-Dichloroethylene	156605	156-60-5	7.00E+01	7.00E-02	(3)		
Dichlorodifluoromethane (Freon 12)	75718	75-71-8	2.00E+02	2.00E-01	(3)		
Dichlorotetrafluoroethane	1320372	1320-37-2					
Ethylbenzene	100414	100-41-4	2.20E+01	1.00E+00	(3)	2.20E-02	(3)
4-Ethyltoluene	622968	622-96-8	NA	NA	(3)		
n-Heptane	142825	142-82-5	NA	NA	(3)		
Hexane	110543	110-54-3	7.00E+02	7.00E-01	(3)		(1)
2-Hexanone	591786	591-78-6	NA	NA	(3)		
Methylene chloride (dichloromethane)	75092	75-09-2	5.20E+01	4.00E-01	(3)	5.20E-02	(3)
4-Methyl-2-pentanone (MIBK)	108101	108-10-1	3.00E+03	3.00E+00	(3)		
Propylene	115071	115-07-1	3.00E+03	3.00E+00	(3)		
Styrene	100425	100-42-5	9.00E+02	9.00E-01	(3)		
1,1,2,2-Tetrachloroethane	79345	79-34-5	4.00E-01	2.10E-01	(3)	4.00E-04	(3)
Tetrachloroethylene (PCE)	127184	127-18-4	8.00E+00	6.00E-01	(1)	8.00E-03	(3)
Toluene	108883	108-88-3	4.00E+02	4.00E-01	(3)		
1,1,1-Trichloroethane	71556	71-55-6	1.00E+03	1.00E+00	(3)		
Trichloroethylene (TCE)	79016	79-01-6	2.00E-01	6.00E-01	(3)	2.00E-04	(3)
Trichlorofluoromethane	75694	75-69-4	7.00E+02	7.00E-01	(3)		
1,1,2-Trichlorotrifluoroethane (CFC 113)	76131	76-13-1	3.00E+04	3.00E+01	(3)		
1,2,4-Trimethylbenzene	95636	95-63-6	6.00E+00	6.00E-03	(3)		(1)
1,3,5-Trimethylbenzene	108678	108-67-8	6.00E+00	6.00E-03	(3)		(1)
Xylene, m&p	108383	108-38-3	1.00E+02	1.00E-01	(3)		
Xylene, o	95476	95-47-6	1.00E+02	1.00E-01	(3)		

SVP-12 0900	SVP-13 0774	SVP-14 1132	SVP-15 0920	SVP-16 0896	SVP-17 1167	SVP-17 Duplicate # 0770	SVP-18 0907	SVP-19 1151	SVP-20 0908	SVP-21 1147	SVP-22 0773	Equipment Blank # 1101
[ug/m ³]	[ug/m ³]	[ug/m ³]	[ug/m ³]	[ug/m ³]	[ug/m ³]	[ug/m ³]						
1042348020	1042348007	1042348006	1042348010	1042348005	1042348004	1042348016	1042348003	1042348002	1042348001	1042348008	1042348009	1042348017
24	25	26	27	28	29	30	31	32	33	34	35	36
7.55E+01	7.88E+01 1ME	9.40E+01	1.19E+02 ESS	1.75E+02 1ME	2.43E+01	1.55E+02 ESS	1.14E+02	1.66E+02 1ME	7.70E+01 1ME	1.98E+02 ESS	1.79E+02 ESS	2.59E+01
4.40E+00	8.90E+00 1M	6.20E+00 1M	6.50E+00 SS	5.40E+00 1M	6.20E+00 1M	1.09E+01 SS	2.89E+01 1M	4.80E+00 1ME	5.70E+00 1ME	1.43E+01 SS	5.30E+00 SS	1.60E+00
1.76E+01 SS	1.28E+01	2.60E+01	2.22E+01	2.60E+01	2.75E+01	1.35E+01	9.41E+01	3.52E+01	1.62E+01	2.88E+01	3.12E+01	5.00E+00 SS
3.40E+00 SS	6.50E+00	5.50E+00	5.10E+00	4.40E+00	3.90E+00	3.50E+00	9.80E+00	2.30E+00	5.00E+00	3.20E+00	2.70E+00	1.60E+00 SS
						2.30E+00						
						2.10E+00						
							7.10E+00		1.70E+00			
4.20E+00	6.40E+00	4.80E+00	5.70E+00	5.50E+00	5.20E+00	8.40E+00	1.83E+01	4.80E+00	6.30E+00	9.40E+00	5.00E+00	
						3.80E+00						
					2.10E+00	2.80E+00						
					1.24E+01	9.60E+00						
					2.07E+01	1.82E+01						
	2.50E+00	2.20E+00	3.50E+00	1.25E+01	4.86E+01	4.44E+01	8.06E+02	2.40E+00	2.30E+00	3.30E+00	3.40E+00	1.90E+00 SS
						6.00E+00 SS						
1.12E+01	9.40E+00	1.04E+01	1.06E+01	8.90E+00	9.70E+00	1.48E+01	1.41E+01	8.80E+00	8.20E+00	7.90E+00	9.60E+00	
4.00E+00 1M						5.50E+00 SS	7.70E+00 1M					
7.00E+00	4.60E+00				5.40E+00	9.10E+00	1.43E+01	4.60E+00	4.40E+00			
6.50E+00	4.70E+00 1M	5.60E+00 1M	7.60E+00 SS	5.70E+00 1M		8.40E+00 SS	4.03E+01 1M	5.00E+00 1ME	5.60E+00 1ME	2.21E+01 SS	7.10E+00 SS	2.40E+00
3.40E+00					6.70E+00 1M	5.60E+00			5.80E+00		3.30E+00	
2.00E+00 1M	3.50E+00 1M	2.39E+01 SS	1.40E+00 1M	1.20E+00 1M	2.09E+01 SS	2.83E+01 1M		3.40E+00 1ME	5.40E+00 SS	3.10E+00 SS	7.00E+00	
						1.14E+02						
3.89E+01		3.61E+01	2.66E+01	2.22E+01	2.04E+01	4.93E+02	2.19E+01			3.21E+01	3.82E+01	
2.00E+00					3.00E+00	2.20E+00						
					4.80E+00							
3.40E+00	1.26E+02	6.05E+02	5.69E+01	1.65E+02	2.56E+03	2.68E+03			3.70E+00	2.15E+01	1.65E+01	
1.43E+01	2.15E+01	1.76E+01	1.80E+01	1.90E+01	1.57E+01	2.77E+01	4.69E+01	1.35E+01	1.61E+01	3.05E+01	1.52E+01	5.60E+00
				3.40E+00								
	1.09E+01	1.63E+01	4.70E+00	4.18E+01	8.33E+02	9.00E+02				6.20E+00	4.00E+00	
			2.00E+00	1.38E+01	1.64E+01	1.58E+01	3.94E+01					
					4.00E+00 SS							
5.10E+00	6.30E+00	4.20E+00	4.90E+00	6.70E+00	4.90E+00	8.90E+00	2.04E+01		4.30E+00	5.30E+00	6.60E+00	
					4.30E+00	4.50E+00						
1.70E+01	1.36E+01	9.70E+00	1.10E+01	1.41E+01	1.49E+01	2.41E+01	3.33E+01	8.60E+00	1.20E+01	1.47E+01	1.02E+01	
8.50E+00	5.50E+00	3.80E+00	6.80E+00	5.40E+00	6.00E+00	1.11E+01	1.22E+01	3.40E+00	4.70E+00	5.10E+00	4.30E+00	

Notes:

(1) - Database from the USEPA's spreadsheet models incorporating the Johnson and Ettinger (1991) Model for Subsurface Vapor Intrusion into Buildings (posted in 2004): http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm. These data are based on National Center for Environmental Assessment (NCEA) - these toxicological data are based on less strict scientific review compared to IRIS and are considered 3-year shelf life values.

(2) - Minnesota Department of Health Health Risk Value (HRV): <http://www.health.state.mn.us/divs/eh/air/hrvtable.htm>
 (3) - Draft Residential Intrusion Screening Values for Vapor Intrusion Risk Evaluation - June 2006 Version. MPCA (received

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* - Based on 1×10^{-5} risk slope factor

E - Analyte concentration exceeded
IS - The internal recovery associated

IS - The internal recovery associated with this result exceeds the lower control limit. The reported value is considered an estimated value.

SS - This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result is considered an estimated value.

SS - This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value

1M - This analyte did not meet the

4.05E+02 - Detected concentration exceeds Residential Intrusion Screening Value / MN Activ

- Detected concentration exceeds Residential Intrusion Screening Value / MN Action Level ten times or more

**Table 6. Soil Gas Samples VOC Analytical Results
(only detected VOCs included)**

Chemical	CAS Number	Residential 10 x ISVs (1)	Industrial 10 x ISVs (1)	VP-1, Tall Sales, 6714 Walker St.	VP-2, Tall Sales, 6714 Walker St.	VP-3, Tall Sales, 6714 Walker St.	VP-1, Eclipse Electric, 6512 Walker St.	VP-2, Eclipse Electric, 6512 Walker St.	VP-3, Eclipse Electric, 6512 Walker St.	VP-1, MiniValco, 3340 Gorham Ave.	VP-2, MiniValco, 3340 Gorham Ave.	VP-3, MiniValco, 3340 Gorham Ave.	VP-1, Lighting Plastics, 3326 Gorham Ave.	VP-2, Lighting Plastics, 3326 Gorham Ave.	VP-3, Lighting Plastics, 3326 Gorham Ave.	VP-33 DUP, Lighting Plastics, 3326 Gorham Ave.	VP Equipment Blank #1
		[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	
Lab Sample ID:																	
Column No.:	1	2	3	4													
Acetone	67-64-1	3.10E+05	8.70E+05	2.40E+01	3.14E+02	1.13E+02	5.04E+01	1.1E+01	2.25E+01	5.76E+01	5.54E+01	3.30E+01	1.43E+02	3.61E+01	1.66E+01	1.06E+01	
Benzene	71-43-2	4.50E+01	1.30E+02	6.50E+00	3.11E+01	3.06E+01	4.80E+00	1.3E+01	6.40E+00	5.70E+00	8.80E+00	5.20E+00	6.40E+00	6.10E+00	3.00E+00	1.50E+00	
Bromodichloromethane	75-27-4	NA	NA						2.60E+00								
1,3-Butadiene	109-99-0	3.00E+00	1.00E+01														
2-Butanone (MEK)	78-93-3	5.00E+04	1.00E+05														
Carbon disulfide	75-15-0	7.00E+03	2.00E+04														
Chloroform	67-66-3	1.00E+03	3.00E+03													9.20E-01	
Chloromethane	74-87-3	9.00E+02	3.00E+03														
Cyclohexane	110-82-7	6.00E+04	2.00E+05														
1,3-Dichlorobenzene	541-73-1	NA	NA													1.65E+01	
1,4-Dichlorobenzene	106-46-7	6.00E+02	2.00E+03														
1,1-Dichloroethane	75-34-3	5.00E+03	1.00E+04														
1,2-Dichloroethane	107-06-2	4.00E+00	1.00E+01														
1,1-Dichloroethene	75-35-4	2.00E+03	6.00E+03														
cis-1,2-Dichloroethylene	156-59-2	NA	NA														
trans-1,2-Dichloroethylene	156-60-5	6.00E+02	2.00E+03														
Dichlorodifluoromethane (Freon 12)	75-71-8	2.00E+03	6.00E+03														
Dichlorotetrafluoroethane	76-14-2	NA	NA														
Ethanol	64-17-5	1.50E+05	4.20E+05														
Ethyl acetate	141-78-6	3.00E+04	8.00E+04														
Ethylbenzene	100-41-4	1.00E+04	3.00E+04														
4-Ethyltoluene	622-96-8	NA	NA														
n-Heptane	142-82-5	NA	NA														
Hexane (n-Hexane)	110-54-3	2.00E+04	6.00E+04														
2-Hexanone	591-78-6	NA	NA														
Methylene chloride (dichloromethane)	75-09-2	2.00E+02	6.00E+02														
4-Methyl-2-pentanone (MIBK)	108-10-1	3.00E+04	8.00E+04														
Naphthalene	91-20-3	9.00E+01	3.00E+02														
2-Propanol	67-63-0	7.00E+04	2.00E+05														
Propylene	115-07-1	3.00E+04	8.00E+04														
Tetrachloroethylene (PCE)	127-18-4	2.00E+02	6.00E+02														
Tetrahydrofuran	109-99-9	NA	NA														
Toluene	108-88-3	5.00E+04	1.00E+05														
1,1,1-Trichloroethane	71-55-6	5.00E+04	1.00E+05														
1,2,4-Trichlorobenzene	120-81-1	7.00E+01	2.00E+02														
Trichloroethylene (TCE)	79-01-6	3.00E+01	8.00E+01														
Trichlorofluoromethane	75-69-4	7.00E+03	2.00E+04														
1,2,4-Trimethylbenzene	95-63-6	7.00E+01	2.00E+02														
1,3,5-Trimethylbenzene	108-67-8	6.00E+01	2.00E+02														
Vinyl acetate	108-05-4	2.00E+03	3.00E+03														
Xylene, m&p	108-38-3	1.00E+03	3.00E+03														
Xylene, o	95-47-6	1.00E+03	3.00E+03														

Notes:

(1) - Intrusion Screening Values (ISVs) for Vapor Intrusion Risk Evaluation (February 2009 Version, MPCA - <http://www.pca.state.mn.us/publications/aq1-36.xls>) multiplied by a factor of 100 - these ISV x 100 values are to be used to screen soil vapor data collected outside of a building's footprint

E - Analyte concentration exceeded the calibration range. The reported result is eliminated.

IS - The internal recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated

NA - no toxicity data available

ND - Below Laboratory Report Limit

SS - This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value

1M - This analyte did not meet the secondary source verification criteria for the initial calibration.

4.05E+02 - Detected concentration exceeds Residential ISV x 10

4.05E+02 - Detected concentration exceeds Industrial ISV x 10

**Table 6. Soil Gas Samples VOC Analytical Results
(only detected VOCs included)**

Chemical	CAS Number	Residential 10 x ISVs (1)	Industrial 10 x ISVs (1)	VP-1, Family Digest, 7008 Walker St.	VP-2, Family Digest, 7008 Walker St.	VP-3, Family Digest, 7008 Walker St.	VP-1, Pampered Pooch, 7020 Walker St.	VP-2, Pampered Pooch, 7020 Walker St.	VP-3, Kaufenberg, 6225 37th St. W.	VP-1, Kaufenberg, 6225 37th St. W.	VP-2, Kaufenberg, 6225 37th St. W.	VP-3, Kaufenberg, 6225 37th St. W.	VP-1 DUP, Ace Supply, 6425 Oxford St.	VP-2, Ace Supply, 6425 Oxford St.	VP-3, Ace Supply, 6425 Oxford St.	VP-1, Care Cleaners, 6528 Lake St. W.	VP-2, Care Cleaners, 6528 Lake St. W.
		[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]
Lab Sample ID:																	
Column No.:	1	2	3	4													
Acetone	67-64-1	3.10E+05	8.70E+05														
Benzene	71-43-2	4.50E+01	1.30E+02														
Bromodichloromethane	75-27-4	NA	NA														
1,3-Butadiene	109-99-0	3.00E+00	1.00E+01														3.70E+00
2-Butanone (MEK)	78-93-3	5.00E+04	1.00E+05														2.70E+00
Carbon disulfide	75-15-0	7.00E+03	2.00E+04														
Chloroform	67-66-3	1.00E+03	3.00E+03														
Chloromethane	74-87-3	9.00E+02	3.00E+03														
Cyclohexane	110-82-7	6.00E+04	2.00E+05														
1,3-Dichlorobenzene	541-73-1	NA	NA														
1,4-Dichlorobenzene	106-46-7	6.00E+02	2.00E+03														
1,1-Dichloroethane	75-34-3	5.00E+03	1.00E+04														
1,2-Dichloroethane	107-06-2	4.00E+00	1.00E+01														
1,1-Dichloroethene	75-35-4	2.00E+03	6.00E+03														
cis-1,2-Dichloroethylene	156-59-2	NA	NA														
trans-1,2-Dichloroethylene	156-60-5	6.00E+02	2.00E+03														
Dichlorodifluoromethane (Freon 12)	75-71-8	2.00E+03	6.00E+03														
Dichlorotetrafluoroethane	76-14-2	NA	NA														
Ethanol	64-17-5	1.50E+05	4.20E+05														
Ethyl acetate	141-78-6	3.00E+04	8.00E+04														
Ethylbenzene	100-41-4	1.00E+04	3.00E+04														
4-Ethyltoluene	622-96-8	NA	NA														
n-Heptane	142-82-5	NA	NA														
Hexane (n-Hexane)	110-54-3	2.00E+04	6.00E+04														
2-Hexanone	591-78-6	NA	NA														
Methylene chloride (dichloromethane)	75-09-2	2.00E+02	6.00E+02														
4-Methyl-2-pentanone (MIBK)	108-10-1	3.00E+04	8.00E+04														
Naphthalene	91-20-3	9.00E+01	3.00E+02														
2-Propanol	67-63-0	7.00E+04	2.00E+05														
Propylene	115-07-1	3.00E+04	8.00E+04														
Tetrachloroethylene (PCE)	127-18-4	2.00E+02	6.00E+02														
Tetrahydrofuran	109-99-9	NA	NA														
Toluene	108-88-3	5.00E+04	1.00E+05														
1,1,1-Trichloroethane	71-55-6	5.00E+04	1.00E+05														
1,2,4-Trichlorobenzene	120-81-1	7.00E+01	2.00E+02														
Trichloroethylene (TCE)	79-01-6	3.00E+01	8.00E+01														
Trichlorofluoromethane	75-69-4	7.00E+03	2.00E+04														
1,2,4-Trimethylbenzene	95-63-6	7.00E+01	2.00E+02														
1,3,5-Trimethylbenzene	108-67-8	6.00E+01	2.00E+02														
Vinyl acetate	108-05-4	2.00E+03	6.00E+03														
Xylene, m&p	108-38-3	1.00E+03	3.00E+03														
Xylene, o	95-47-6	1.00E+03	3.00E+03														

Notes:

(1) - Intrusion Screening Values (ISVs) for Vapor Intrusion Risk Evaluation (February 2009 Version, MPCA - <http://www.pca.state.mn.us/publications/aq1-36.xls>) multiplied by a factor of 100 - these ISV x 100 values are to be used to screen soil vapor data collected outside of a building's footprint

E - Analyte concentration exceeded the calibration range. The reported result is eliminated.

IS - The internal recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated

NA - no toxicity data available

ND - Below Laboratory Report Limit

SS - This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value

1M - This analyte did not meet the secondary source verification criteria for the initial calibration.

4.05E+02 - Detected concentration exceeds Residential ISV x 10

4.05E+02 - Detected concentration exceeds Industrial ISV x 10

**Table 6. Soil Gas Samples VOC Analytical Results
(only detected VOCs included)**

Chemical	CAS Number	Residential 10 x ISVs (1)	Industrial 10 x ISVs (1)	VP-3, Care Cleaners, 6528 Lake St. W.	VP-1, Techna Graphics, 6500 Lake St. W.	VP-2, Techna Graphics, 6500 Lake St. W.	VP-3, Techna Graphics, 6500 Lake St. W.	VP-1 Bryant Graphics, 6504 Walker St.	VP-2 Bryant Graphics, 6504 Walker St.	VP-1 Prof. Instruments, 6824 Lake St. W.	VP-2 Prof. Instruments, 6824 Lake St. W.	VP-3 Prof. Instruments, 6824 Lake St. W.
		[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]	[ug/m³]
Lab Sample ID:												
Column No.:	1	2	3	4								
Acetone	67-64-1	3.10E+05	8.70E+05									
Benzene	71-43-2	4.50E+01	1.30E+02									
Bromodichloromethane	75-27-4	NA	NA									
1,3-Butadiene	109-99-0	3.00E+00	1.00E+01									
2-Butanone (MEK)	78-93-3	5.00E+04	1.00E+05									
Carbon disulfide	75-15-0	7.00E+03	2.00E+04									
Chloroform	67-66-3	1.00E+03	3.00E+03									
Chloromethane	74-87-3	9.00E+02	3.00E+03									
Cyclohexane	110-82-7	6.00E+04	2.00E+05									
1,3-Dichlorobenzene	541-73-1	NA	NA									
1,4-Dichlorobenzene	106-46-7	6.00E+02	2.00E+03									
1,1-Dichloroethane	75-34-3	5.00E+03	1.00E+04									
1,2-Dichloroethane	107-06-2	4.00E+00	1.00E+01									
1,1-Dichloroethene	75-35-4	2.00E+03	6.00E+03									
cis-1,2-Dichloroethylene	156-59-2	NA	NA									
trans-1,2-Dichloroethylene	156-60-5	6.00E+02	2.00E+03									
Dichlorodifluoromethane (Freon 12)	75-71-8	2.00E+03	6.00E+03									
Dichlorotetrafluoroethane	76-14-2	NA	NA									
Ethanol	64-17-5	1.50E+05	4.20E+05									
Ethyl acetate	141-78-6	3.00E+04	8.00E+04									
Ethylbenzene	100-41-4	1.00E+04	3.00E+04									
4-Ethyltoluene	622-96-8	NA	NA									
n-Heptane	142-82-5	NA	NA									
Hexane (n-Hexane)	110-54-3	2.00E+04	6.00E+04									
2-Hexanone	591-78-6	NA	NA									
Methylene chloride (dichloromethane)	75-09-2	2.00E+02	6.00E+02									
4-Methyl-2-pentanone (MIBK)	108-10-1	3.00E+04	8.00E+04									
Naphthalene	91-20-3	9.00E+01	3.00E+02									
2-Propanol	67-63-0	7.00E+04	2.00E+05									
Propylene	115-07-1	3.00E+04	8.00E+04									
Tetrachloroethylene (PCE)	127-18-4	2.00E+02	6.00E+02									
Tetrahydrofuran	109-99-9	NA	NA									
Toluene	108-88-3	5.00E+04	1.00E+05									
1,1,1-Trichloroethane	71-55-6	5.00E+04	1.00E+05									
1,2,4-Trichlorobenzene	120-81-1	7.00E+01	2.00E+02									
Trichloroethylene (TCE)	79-01-6	3.00E+01	8.00E+01									
Trichlorofluoromethane	75-69-4	7.00E+03	2.00E+04									
1,2,4-Trimethylbenzene	95-63-6	7.00E+01	2.00E+02									
1,3,5-Trimethylbenzene	108-67-8	6.00E+01	2.00E+02									
Vinyl acetate	108-05-4	2.00E+03	6.00E+03									
Xylene, m&p	108-38-3	1.00E+03	3.00E+03									
Xylene, o	95-47-6	1.00E+03	3.00E+03									

Notes:

(1) - Intrusion Screening Values (ISVs) for Vapor Intrusion Risk Evaluation (February 2009 Version, MPCA - <http://www.pca.state.mn.us/publications/aq1-36.xls>) multiplied by a factor of 100 - these ISV x 100 values are to be used to screen soil vapor data collected outside of a building's footprint

E - Analyte concentration exceeded the calibration range. The reported result is eliminated.

IS - The internal recovery associated with this result exceeds the lower control limit. The reported result should be considered an estimated result.

NA - no toxicity data available

ND - Below Laboratory Report Limit

SS - This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value

1M - This analyte did not meet the secondary source verification criteria for the initial calibration.

4.05E+02 - Detected concentration exceeds Residential ISV x 10

4.05E+02 - Detected concentration exceeds Industrial ISV x 10

Table 6
Temporary Soil Vapor Boring Analytical Results
St. Louis Park Solvent Plume - Former Flame Metals - St. Louis Park, Minnesota
Concentrations are Reported in Micrograms per Cubic Meter
Partial Listing - Only Compounds Detected are Listed

Collection Location/Comparison Criteria			Taft/10x Res. ISV						Flame/10x Ind. ISV		
Sample Identification			VP-1	VP-2	VP-3	VP-4	DUP-VP-4	VP-5	SB-1-VP	SB-3-VP	
PID Reading Following Sample Collection (in ppm)			<1.0	1.2	NA	7.0	7.0	12	<1.0	<1.0	
Date Collected			2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	2/5/14	
Compound	10x Res. ISV	10x Ind. ISV	Acute ISV								
1,2,4-Trimethylbenzene	70	200	NE	5.80	2.70	<1.4	3.80	5.20	6.90	2.90	<2.3
1,3,5-Trimethylbenzene	60	200	NE	<1.4	<1.5	<1.4	<1.3	1.80	<1.3	<2.3	<2.3
1,3-Butadiene	3.00	10	NE	16.1	8.70	2.40	<0.60	<0.60	<0.60	<1.0	<1.0
2-Butanone (MEK)	50,000	100,000	10,000	11.1	4.40	1.60	10.0	5.80	30.4	11.0	15.5
4-Ethyltoluene	NE	NE	NE	3.70	1.60	<1.4	2.10	2.20	4.40	<2.3	<2.3
Acetone	310,000	87,000	60,000	48.9	25.2	6.10	<0.64	<0.64	66.2	49.7	64.2
Benzene	45	130	1,000	14.0	7.30	2.40	13.8	24.9	42.0	8.30	4.80
Carbon disulfide	7,000	20,000	6,000	<0.88	<0.94	<0.91	2.20	3.80	3.90	4.80	6.10
Chloromethane	900	3,000	1,000	<0.58	<0.63	1.00	<0.56	<0.56	<0.56	<0.96	<0.96
Cyclohexane	60,000	200,000	NE	20.2	2.00	<1.0	9.10	15.6	168	4.00	3.40
Dichlorodifluoromethane	2,000	6,000	NE	1.80	1.90	1.80	<1.4	<1.4	<1.4	<2.3	<2.3
Ethanol	150,000	420,000	180,000	6.00	4.50	2.80	13.4	<0.51	10.0	<0.87	6.50
Ethyl acetate	30,000	80,000	40,000	19.8	7.10	<1.1	<0.98	<0.98	21.1	36.0	13.2
Ethylbenzene	10,000	30,000	10,000	8.20	2.60	<1.3	3.60	5.80	34.4	5.60	<2.0
Methylene Chloride	200	600	10,000	1.90	<1.1	1.10	88.7	<0.95	<0.95	26.7	11.1
Naphthalene	90	300	NE	5.70	3.30	10.3	4.30	2.20	2.10	<2.5	<2.5
Propylene	30,000	80,000	NE	<0.49	<0.52	12.7	<0.47	658	<0.47	<0.80	<0.80
Styrene	10,000	30,000	21,000	5.00	3.40	<1.3	3.30	4.10	3.50	4.00	<2.0
Tetrachloroethene	200	600	20,000	1.70	2.70	<0.99	1.10	2.00	<0.92	6.20	1.60
Toluene	50,000	100,000	37,000	17.3	5.80	1.60	13.2	21.0	115	14.4	5.90
m&p-Xylene	1,000	3,000	43,000	15.5	5.10	<2.5	7.40	13.0	54.9	7.80	<4.0
n-Heptane	NE	NE	NE	22.6	3.10	<1.2	21.0	37.4	277	6.20	<1.9
n-Hexane	20,000	60,000	NE	3.50	2.50	<1.0	78.0	83.0	75.9	9.40	7.30
o-Xylene	1,000	3,000	43,000	8.20	2.30	<1.3	3.00	5.40	24.2	2.90	<2.0

Notes

PID = photoionization detector

ppm = parts per million

NA = No vapor flowing to photoionization detector. Some sediment is likely clogging soil vapor tubing.

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

Taft = a soil vapor sample advanced on Taft Avenue South right-of-way and compared to Res. ISV criteria

Flame = a soil vapor sample advanced on the Former Flame Metals property and compared to Ind. ISV criteria

10x Res. ISV = Ten times the residential intrusion screening value for vapor intrusion risk evaluation

10x Ind. ISV = Ten times the industrial intrusion screening value for vapor intrusion risk evaluation

Acute ISV = Acute intrusion screening value for vapor intrusion risk evaluation

██████████ = Concentration exceeds the applicable 10x ISV

NE = criteria not established

* = Laboratory reporting limit is greater than established criteria

Table 6
Temporary Soil Vapor Boring Analytical Results

Chemical	CAS #	Temp VP-1A (4/18/14)	Temp VP-1 (4/18/14)	Temp VP-2 (4/18/14)	Industrial 100x ISVs	Acute ISV
Ethylbenzene	100-41-4	17.9	20.3	2.7	300,000	10,000
Styrene	100-42-5	<1.5	<1.5	<1.5	300,000	21,000
Benzyl chloride	100-44-7	<1.8	<1.8	<1.8	300	240
cis-1,3-Dichloropropene*	10061-01-5	<1.5	<1.5	<1.6	6000	NE
trans-1,3-Dichloropropene*	10061-02-6	<1.5	<1.5	<1.6	6000	NE
1,4-Dichlorobenzene	106-46-7	<2.0	<2.0	<2.1	20,000	10,000
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	<2.6	<2.6	<2.7	6	NE
1,3-Butadiene	106-99-0	<0.76	<0.76	<0.78	100	NE
1,2-Dichloroethane	107-06-2	8.5	9.5	<0.71	100	NE
Vinyl acetate	108-05-4	<1.2	<1.2	<1.2	60,000	NE
4-Methyl-2-pentanone (Methyl isobutyl ketone, MIBK)	108-10-1	<1.4	1.7	<1.4	800,000	NE
m,p-Xylene**	179601-23-1	9.0	9.9	4.7	30,000	43,000
1,3,5-Trimethylbenzene	108-67-8	<1.7	<1.7	<1.7	2000	NE
Toluene (Methylbenzene)	108-88-3	26.8	44.9	49.3	1,000,000	37,000
Chlorobenzene	108-90-7	<1.6	<1.6	<1.6	10,000	NE
Tetrahydrofuran	109-99-9	<1.0	<1.0	<1.0	NE	NE
n-Hexane	110-54-3	18.1	38.3	10.5	600,000	NE
Cyclohexane	110-82-7	10.4	19.8	5.0	2,000,000	NE
Propylene (Methylethylene)	115-07-1	84.2	<0.59	38.7	800,000	NE
1,2,4-Trichlorobenzene	120-82-1	<4.2	<4.2	<4.3	1000	NE
Dibromochloromethane	124-48-1	<2.9	<2.9	<3.0	NE	NE
Tetrachloroethylene (PCE)	127-18-4	145000	94800	1360	6000	20,000
Ethyl acetate	141-78-6	<1.2	<1.2	<1.3	800,000	40,000
n-Heptane	142-82-5	11.7	23.7	3.1	NE	NE
cis-1,2-Dichloroethene	156-59-2	14.2	18.7	2.1	20,000	NE
trans-1,2-Dichloroethene	156-60-5	<1.4	<1.4	<1.4	20,000	800
Methyl-tert-butyl ether (MTBE)	1634-04-4	<1.2	<1.2	<1.3	800,000	7,000
1,3-Dichlorobenzene	541-73-1	<2.0	<2.0	<2.1	NE	NE
Carbon tetrachloride	56-23-5	<1.1	<1.1	<1.1	200	1,900
2-Hexanone	591-78-6	<1.4	<1.4	<1.4	NE	NE
4-Ethyltoluene	622-96-8	<1.7	1.7	<1.7	NE	NE
Ethanol	64-17-5	<1.6	13.1	8.4	4,200,000	180,000
2-Propanol (Isopropyl alcohol)	67-63-0	10.8	<2.1	59.6	2,000,000	3,200
Acetone	67-64-1	<40.6	<40.6	<42.0	8,700,000	60,000
Bromoform	67-66-3	<1.7	<1.7	<1.7	30,000	150
Benzene	71-43-2	11.4	25.5	3.5	1300	1,000
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6	133	145	<1.9	1,000,000	140,000
Bromomethane (Methyl bromide)	74-83-9	<1.3	<1.3	<1.4	1000	2,000
Chloromethane (Methyl chloride)	74-87-3	<0.71	<0.71	<0.73	30,000	1,000
Chloroethane (Ethyl chloride)	75-00-3	<0.91	<0.91	<0.94	3,000,000	100,000
Vinyl chloride	75-01-4	<0.44	<0.44	<0.45	300	180,000
Methylene Chloride (Dichloromethane)	75-09-2	<5.9	16.3	6.2	6000	10,000
Carbon disulfide	75-15-0	6.3	12.9	6.9	200,000	6,000
Bromform	75-25-2	<3.5	<3.5	<3.7	3000	NE
Bromodichloromethane	75-27-4	<2.3	<2.3	<2.4	NE	NE
1,1-Dichloroethane	75-34-3	<1.4	<1.4	<1.4	100,000	NE
1,1-Dichloroethene (DCE)	75-35-4	<1.4	1.5	<1.4	60,000	NE
Trichlorofluoromethane (Freon 11)	75-69-4	<1.9	2.0	<2.0	200,000	NE
Dichlorodifluoromethane (Freon 12)	75-71-8	2.0	2.6	2.0	60,000	NE
1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1	<2.7	<2.7	<2.8	8,000,000	NE
Dichlorotetrafluoroethane	76-14-2	<2.4	<2.4	<2.5	NE	NE
1,2-Dichloropropane	78-87-5	<1.6	<1.6	<1.6	1000	200
2-Butanone (Methyl ethyl ketone, MEK)	78-93-3	8.2	14.7	4.3	1,000,000	10,000
1,1,2-Trichloroethane	79-00-5	<0.92	<0.92	<0.96	200	NE
1,1-Chloroethylene (ICE)	79-01-6	170	184	6.4	600	2,000
1,1,2,2-Tetrachloroethane	79-34-5	<1.2	<1.2	<1.2	100	NE
Hexachloro-1,3-butadiene	87-68-3	<9.1	<9.1	<9.4	100	NE
Naphthalene	91-20-3	<4.5	<4.5	<4.6	3000	NE
o-Xylene***	95-47-6	74.5	55.1	1.7	30,000	43,000
1,2-Dichlorobenzene	95-50-1	<2.0	<2.0	<2.1	60,000	NE
1,2,4-Trimethylbenzene	95-63-6	2.9	3.6	<1.7	2000	NE

NOTES:
ISV - Intrusion Screening Value
established by MPCA

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit
= Concentration exceeds Industrial 100x ISVs or Acute ISV

* based on 1,3-Dichloropropene cas # 542-75-6

** based on total xylenes cas # 1330-20-7

NE - Not Established

All compound concentrations displayed in µg/m³

Table 7
Industrial Indoor and Sub-Slab Vapor Sampling Exceedences

Exceedance Values					Marathon 3356 Gorham Ave			Minvalco 3340 Gorham				Tall Sales 6714 Walker	Audio by Design 6518 Walker Street	Bryant Graphics 6500 Walker Street
Chemical	CAS #	Industrial ISV	10x Industrial ISV	Acute ISV	SSV-MN	SSV-MS	MIA-2	MVSS-2	MVSS-4	MVIA-3	TSSS-3	SSV-2	SSV-15	SV-16
				Date:	12/16/2014	12/16/2014	3/31/2015	3/9/2015	3/9/2015	3/31/2015	3/10/2014	3/26/2014	5/28/2014	5/28/2014
Tetrachloroethylene (PCE)	127-18-4	30	300	20,000	<6.0	<6.0	<0.99	<1.2	<1.2	1.7	20.6	4220	3090	2930
2-Propanol (Isopropyl alcohol)	67-63-0	20,000	200,000	3,200	142	125	3.4	19.7	75.7	250	6510	582	4020	8820
Methylene Chloride (Dichloromethane)	75-09-2	60	600	10,000	6.5	16.4	405	608	43.8	102	8.7	5.2	18.5	13.1
Trichloroethylene (TCE)	79-01-6	6	60	2,000	249	250	1.4	8.4	108	7.4	2.1	37.6	32.9	103

NOTES:

< = Less than Laboratory Reporting Limit

BOLD Text indicates result is above reporting limit

All compound concentrations displayed in $\mu\text{g}/\text{m}^3$

APPENDIX A
St. Louis Park Treatment Plant #4 Effluent Concentrations

